Determination 2006/66

Refusal of a Code Compliance Certificate for a building at 7 Almond Grove, Fielding

1 The dispute to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004[1] ("the Act") made under due authorisation by me, John Gardiner, Determinations Manager, Department of Building and Housing, for and on behalf of the Chief Executive of that Department. The applicants are Mr and Mrs Staples ("the applicants"), who are trustees of the current owner Kaylands Trust, and the other party is the Manawatu District Council ("the territorial authority").

1.2 The dispute for determination is whether the territorial authority's decision to decline to issue a code compliance certificate for a 4-year-old house because it was not satisfied that the building complied with the Building Code[2] (First Schedule, Building Regulations 1992) is correct.

1.3 In order to make a decision regarding the code compliance certificate, the question to be determined is whether I am satisfied on reasonable grounds that the building

[1] The Building Act 2004 is available from the Department's website at www.dbh.govt.nz
[2] The Building Code is available from the Department's website at www.dbh.govt.nz.

complies with the Building Code (see sections 177 and 188 of the Act). I have therefore sought information that will enable me to determine the question.

1.4 In making my decisions, 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. I have evaluated the information using a framework that I describe more fully in paragraph 7. I have considered those aspects of the Act or the Building Code that apply to a building of this configuration.

2 The building

2.1 The building consists of a one-storey detached house situated on a flat site in a medium wind zone for the purposes of NZS 3604[3]. Construction is conventional light timber frame, with a concrete slab and foundations, monolithic cladding and aluminium windows. The house shape is fairly simple, with a 25^{o} profiled metal hip roof that provides eaves projections of at least 700mm overall above all walls.

2.2 The specification describes the framing as "No 1 Framing" and I have received no written evidence as to the treatment, if any, of the external wall framing timber. Based on this evidence and the date of construction of this house, I consider that the external wall framing is unlikely to be treated.

2.3 The cladding is a monolithic cladding system described as stucco over a solid backing. In this instance it consists of 4.5mm "Hardibacker" sheets, which are fixed through the building wrap directly to the framing timbers, thus contributing towards the structural bracing of the walls. The backing sheets are covered by a slip layer of building wrap, metal mesh reinforced solid plaster and a paint coating.

2.4 I have seen no evidence of producer statements or warranties for the cladding. The first owner (refer paragraph 3.1) has supplied a copy of an "Electrical Certificate of Compliance" dated 8 June 2001. The expert has supplied copies of structural bracing calculations and a producer statement for the solid fuel heater dated 8 December 2005.

3 Sequence of events

3.1 The territorial authority issued a building consent for the house to Mr Hodgson ("the first owner") on 19 March 2001, based on a building certificate issued by Nationwide Building Certifiers Ltd ("the building certifier") on 14 March 2001.

3.2 The building certifier submitted a "Building certifier's inspection report" dated 31 May 2001 to the territorial authority, which noted that inspections had been satisfactorily completed up to and including the "Post Line" at 5 May 2001. It appears that the house was completed during 2001, although I have received no evidence of further inspections by the building certifier.

[3] New Zealand Standard NZS 3604:1999 Timber Framed Buildings

3.3 The building certifier went into receivership and ceased operating in December 2004. The following year, when selling the property, the first owners discovered that the territorial authority held no record of a code compliance certificate for the house.

3.4 In a letter to the first owners dated 21 November 2005, the territorial authority suggested that a determination be sought, explaining that a code compliance certificate could not be issued because:

> 1. The Building Consent was issued with the understanding that Nationwide Building Certifiers Ltd was engaged to undertake all inspections plus issue a Code Compliance Certificate.
>
> 2. [The territorial authority has] only received one progress report that indicated that there is outstanding work.
>
> 3. [The territorial authority is] now unable to carry out the necessary inspections as [the territorial authority] understand[s] that the dwelling is complete.

3.5 The first owner's application for a determination was received by the Department on 25 November 2005.

3.6 In order to proceed with the sale of the house, the first owners subsequently applied for a certificate of acceptance. In a letter dated 25 November 2005, the territorial authority advised the first owners that a certificate could not yet be issued, and attached a notice to fix that listed five items to be completed. A second notice to fix dated 28 November 2005 was issued in addition to the first. The second notice required a code compliance certificate for the installation of the solid fuel heater.

3.7 It appears that the outstanding items were subsequently completed, as the territorial authority issued a certificate of acceptance dated 16 December 2005. This noted that the acceptance of code compliance was:

> … limited to only those parts of the building that were visually available at the time of inspection.

3.8 The house was subsequently sold to the applicants. In a letter to the Department dated 25 January 2006 the applicants' lawyer, Ms Signal ("the lawyer") explained that the certificate of acceptance had been sufficient for the sale to proceed, but the applicants were keen to seek a code compliance certificate and therefore wished to proceed with the determination.

4 The submissions

4.1 In a letter accompanying the application, the first owners outlined the history of the house and described efforts that had been made to locate the building certifier's records. The first owners noted that they had been informed that all files had been sent to the Department, which in turn informed them that all files received had been forwarded to the relevant territorial authorities, so that:

> …[the Department does] not have any more files, also the [building certifier's] receivers and liquidator have informed us that they do not have any more files, the Manawatu District Council have informed us that they have not received a file for 7 Almond Grove.

4.2 The applicants forwarded copies of:

- the drawings and specification
- the consent documentation
- the building certifier's May report
- the communication from the builder
- some of the correspondence with the territorial authority
- various other statements and information.

4.3 The territorial authority made no submission.

4.4 Copies of the submissions and other evidence were provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

4.5 The draft determination was sent to the parties for comment on 2 May 2006. The applicants accepted the draft determination on 19 June 2006. The territorial authority made no response.

5 The code compliance certificate

5.1 The territorial authority has refused to accept that a valid code compliance certificate for this house was issued by the building certifier.

5.2 I take the view that the documentation provided by the applicants is not sufficient to establish that the house was issued with a code compliance certificate by the building certifier, as there is no written evidence of any inspections after the post-line inspection on 9 May 2001.

5.3 However, I note that the building certifier's report records satisfactory inspections of work prior to the installation of linings and, in the absence of any evidence to the contrary, I take the view that the Department is entitled to rely on those inspections with regard to inaccessible building components.

5.4 I also note that the certificate of acceptance for the house indicates that the territorial authority is satisfied, on reasonable grounds that the accessible components comply with the building code. In the absence of any evidence to the contrary, I take the view that the Department is entitled to rely on those same reasonable grounds with regard to accessible building components.

5.5 However, I consider that a visual inspection of accessible components is required to confirm that there are no apparent issues of non-compliance; and thus to provide grounds to allow me form a view that the building as a whole complies with the building code. Accordingly I have relied on the expert's report as a means of verification.

6 The expert's report

6.1 The expert inspected the interior and exterior of the house on 14 March 2006 and 15 March 2006, and furnished a report that was completed on 23 March 2006. The expert noted that the house was built in accordance with the consent documentation and that the quality of carpentry and building work appeared to be of a good standard.

6.2 Interior, structure and plumbing

6.2.1 The expert inspected all rooms and the roof space of the house, noting finishes, standards of construction, appliances and fittings. The expert noted that the structure appeared "sound and well built". From what he was able to observe, the expert noted that there appeared to be "no reason to doubt the inspections carried out" by the building certifier.

6.2.2 The expert noted that the interior and structure of the house appeared to comply, with minor exceptions as noted in paragraph 6.2.3, with the following relevant clauses of the building code:

- B1 Structure
- B2 Durability
- E3 Internal moisture
- G1 Personal hygiene
- G2 Laundering
- G3 Food preparation, storage and utensil washing
- G4 Ventilation
- G5 Interior environment
- G7 Natural light
- G9 Electricity (supported by the Electrical Certificate of Compliance)
- G12 Water supplies
- G13 Foul water
- H1 Energy efficiency.

6.2.3 The expert included the following specific comments on the interior and plumbing of the house:

- the insulation in the ceiling space was poorly fitted, and was missing over part of the master bedroom
- the exhaust from the main bathroom ceiling fan was not connected to the fan unit, allowing moist air to exhaust into the ceiling space
- the hot water pipes in the ceiling space were poorly lagged

- the hot water pipe from the hot water cylinder was not lagged
- the fixings of the cylinder earthquake restraints to the wall were inadequate
- the gully traps had unhaunched uPVC surrounds that would be prone to damage.

6.3 Exterior surfaces and cladding

6.3.1 The expert noted that the building generally appeared to comply with the requirements of clause E1 Surface water, with good falls provided to allow adequate drainage away from the house.

6.3.2 The expert noted that the stucco cladding generally appeared to be of a good standard, except for the paint coating. The cladding appeared to accord with the standard applying at the time of construction NZS 4251[4], although the actual control joint spacing (5 metres) exceeds that permitted by the Standard (4 metres). The expert also noted that clearances to ground and paving were adequate, and that the roof flashings appeared satisfactory.

6.3.3 The expert noted that the applicants did not wish any invasive testing to be carried out, so non-invasive moisture readings were taken at skirting level and under windows throughout the interior of the house. No indication of elevated moisture levels was noted. The expert also used a magnet to locate metal components such as underlying flashings to windows and doors.

6.3.4 The expert made the following specific comments on the cladding:

- the falls to the guttering were inadequate in some locations with evidence of ponding
- the paint coating to the stucco was in poor condition and appeared unlikely to provide adequate protection to the plaster
- there were several small random cracks under two windows on the north elevation
- although using the magnet confirmed the presence of jamb and sill flashings, the sill flashing did not extend to the front face of the stucco, so preventing any water that reaches the jamb flashings from draining to the outside
- the garage door lacked flashings at the jambs
- the exterior hose taps had no flanges, so the penetrations through the cladding were poorly sealed.

[4] New Zealand Standard NZS 4251: Solid plastering; Part 1: 1998 Cement plasters for walls, ceilings and soffits

6.3.5 The expert also noted that, while lacking a head flashing, the meter box appeared well sealed and was sheltered below the eave projection, with no indication of moisture penetration.

6.3.6 A copy of the expert's report was provided to the parties on 28 March 2006.

7 Evaluation for code compliance

7.1 Interior, structure and plumbing

7.1.1 Generally, the interior, structure and plumbing of the building appear to have been constructed in accordance with good trade practice and with the building code. However, there are several items that are not in compliance with the building code, and these are as described in paragraph 6.2.3 as being the:

- the insulation in the ceiling space
- the exhaust from the main bathroom fan
- the poorly installed lagging to the hot water pipes in the ceiling space and lack of lagging to the pipe above the hot water cylinder itself
- the inadequate fixings of the hot water cylinder restraints
- the surrounds to the exterior gully traps.

7.2 Evaluation framework: exterior cladding

7.2.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solution[5], in this case E2/AS1, which 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.

7.2.2 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

[5] An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way of complying with the Building Code. The Acceptable Solutions are available from The Department's Website at www.dbh.govt.nz.

risk factors in previous determinations (refer to Determination 2004/1 et al) relating to cladding and these factors are also used in the evaluation process.

7.2.3 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.

7.3 Weathertightness risk

7.3.1 In relation to these characteristics I find that the building:

- is built in a medium wind zone
- is a maximum of one storey high
- is simple in plan and in form
- has monolithic cladding which is fixed directly to the framing
- has eaves projections of 700mm or more above all walls
- has external wall framing that is untreated, so providing no protection against decay if the framing absorbs and retains moisture.

7.3.2 When evaluated using the E2/AS1 risk matrix, these weathertightness features show that all elevations of the building demonstrate a low weathertightness risk rating. The matrix is an assessment tool that is intended to be used at the time of application for consent, before the building work has begun and, consequently, before any assessment of the quality of the building work can be made. Poorly executed building work introduces a risk that cannot be taken into account in the consent stage but must be taken into account when the building as actually built is assessed for the purposes of issuing a code compliance certificate.

7.4 Weathertightness performance: exterior cladding

7.4.1 Generally the cladding appears to have been installed to a high standard and in accordance with good trade practice, with well-constructed junctions, penetrations and edges. However, several items require attention, and these areas are as described in paragraph 6.3.4 and in the expert's report as being the:

- the inadequate falls to the guttering
- the poor condition of the paint coating to the stucco
- the cracks in the stucco at some locations
- the poorly installed sill flashings, which do not drain to the outside

- the lack of flashings to the garage door jambs
- the poorly weatherproofed cladding penetrations by the hose taps.

7.4.2 I note the expert's comment on the meter box, and accept that the weathertightness provided is adequate in this case, as the meter box is well sheltered under the eaves. I note that although the control joint spacing as installed appears to exceed the recommended spacing, the extent of deviation is not excessive, and in my opinion this is not likely to lead to non-compliance of the cladding in the future.

7.4.3 Notwithstanding the fact that the backing sheets behind the stucco are fixed directly to the timber framing, which is likely to be untreated, thus inhibiting drainage and ventilation behind the cladding, I have noted certain compensating factors that assist the performance of the cladding in this particular case:

- the cladding appears to have been installed to good trade practice
- the house is a simple, one-storey building
- the house has eaves projections above all walls that provide good protection to the cladding areas below them.

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

8 Conclusions

8.1 Exterior surfaces and cladding

8.1.1 I am satisfied that the current performance of the cladding is adequate because it is preventing water penetration into the building at present. Consequently, I am satisfied that the cladding system as installed on the building complies with clause E2 of the Building Code.

8.1.2 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 already identified on the building are likely to allow the ingress of moisture in the future, the house does not comply with the durability requirements of clause B2.

8.1.3 Subject to further investigations that may identify other faults, I consider that, because the faults that have been identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 7.4.1 should be expected to result in the building becoming and remaining weathertight and in compliance with clause B2.

8.1.4 Effective maintenance of claddings (in particular of monolithic cladding) is important to ensure ongoing compliance with clauses B2 and E2 of the Building Code and is the responsibility of the building owner. Clause B2.3.1 of the Building Code requires that the cladding be subject to "normal maintenance", however, that term is not defined in the Act.

8.1.5 I take the view that normal maintenance is that work generally recognised as necessary to achieve the expected durability for a given building element. With respect to the cladding, the extent and nature of the maintenance will depend on the material, or system, its geographical location and level of exposure. Following regular inspection, normal maintenance tasks shall include but not be limited to:

- Where applicable, following manufacturers' maintenance recommendations
- Washing down surfaces, particularly those subject to wind-driven salt spray
- Re-coating protective finishes
- Replacing sealant, seals and gaskets in joints.

8.1.6 As the external wall framing of this building is unlikely to be treated, periodic checking of its moisture content should also be carried out as part of normal maintenance.

8.2 Interior, structure and plumbing: other code clauses

8.2.1 Subject to further investigations that may identify other faults, I consider that satisfactory rectification of the non-compliant items outlined in paragraph 7.1.1 should be expected to result in the building being in compliance with the other relevant clauses of the building code.

8.3 General

8.3.1 It is emphasised that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular component has been established as being code compliant in relation to a particular building does not necessarily mean that the same component will be code compliant in another situation.

8.3.2 In the circumstances, I decline to incorporate any waiver or modification of the Building Code in this determination.

9 The decision

9.1 In accordance with section 188 of the Act, I hereby determine that the monolithic cladding system as installed complies with clause E2 of the Building Code. However, there are several items to be remedied to ensure that the house remains weathertight and thus meets the durability requirements of the code. In addition, there are several items to be remedied to allow the house to meet other requirements of the code. Consequently, I find that the house does not comply with the Building

Code. Accordingly, I confirm the territorial authority's decision to refuse to issue a code compliance certificate.

9.2 I also find that rectification of the items outlined in paragraph 7.1.1 and paragraph 7.4.1, is likely to result in the house becoming in compliance with the building code, including remaining weathertight, and in compliance with clauses B2. Work to correct these items may expose additional associated defects not yet apparent. All rectification work is to be completed to the approval of the territorial authority.

9.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 9.2. Initially, the territorial authority should issue a 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 detailed 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.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 17 July 2006.

John Gardiner
Determinations Manager