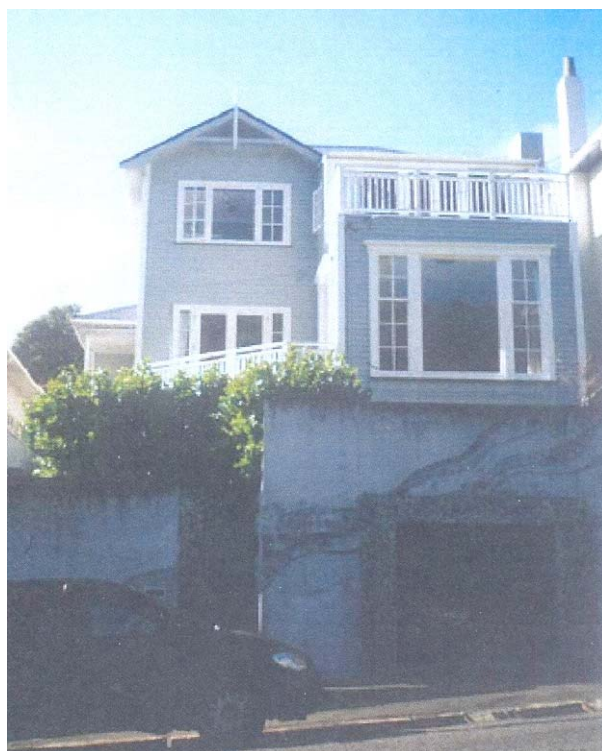


Determination 2006/115

Refusal of a code compliance certificate for additions and alterations to a house at 43 Glen Road, Kelburn, Wellington



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, Determinations Manager, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicants are the owners, Mr and Mrs Lawler (“the applicants”), and the other party is the Wellington City Council (“the territorial authority”).

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

- 1.2 The matter for determination is whether I am satisfied that the territorial authority's decision to decline to issue a code compliance certificate for 3-year-old additions and alterations to an existing house is correct. The territorial authority declined the application because it considers it has insufficient grounds to be satisfied that the building work complies with the Building Code.
- 1.3 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.

2 The building

- 2.1 The building work consists of additions and alterations to a large two-storey detached house situated on a sloping west-facing site, which is in a low wind zone for the purposes of NZS 3604². The original house appears to have been constructed in the 1920's, with minor alterations carried out at various times up until the mid-1990's. The building work considered in this determination consists of an upper floor extension to the east end of the house - to add a bedroom and additional bathroom. Other interior alterations were also carried out, including some to the existing upper and lower floor bathrooms. The resulting house is conventional light timber frame, with a timber-framed sub-floor, weatherboard cladding and timber windows. The house shape is fairly complex in plan and form, with the hips, gables and lean-tos of the profiled metal 30° pitch roof at several levels. The roof pitch changes to 10° above the upper floor west bedroom, as the result of a previous addition. The eaves and verge projections to the new extension are about 450mm overall, except above a projecting bay window in the upper south wall.
- 2.2 An existing deck from the upper west bedroom is situated above the ground floor living room. The alterations include the removal of existing weatherboard-clad balustrades to leave an upstand (covered with a metal capping) that supports new timber balustrades. New liquid-applied membrane has been applied to the deck surface. A new timber framed deck, with spaced timber slats and timber balustrades, extends from the ground floor living room, with new French doors added to the north and west walls.
- 2.3 Given the age of the original house and the later additions, I consider that the original framing is likely to be mainly heart Rimu with some boracic-treated timber. The specification calls for all wall framing in the new additions to be to "H1 treated". I have received no other written evidence as to the treatment, if any, of the external wall framing timber. Accordingly, given the date of construction in 2003 and the timber specification, I consider that the external wall framing of the new alteration work is unlikely to be treated to a level that will provide resistance to fungal decay.
- 2.4 The exterior walls of the new extension are clad with bevel-backed timber weatherboards, to match the existing cladding. Timber facings and scribes are used at corners and around the new timber windows.

² New Zealand Standard NZS 3604:1999 Timber Framed Buildings

2.5 I note that certificates supplied for the alterations include the following:

- Electrical Certificate of Compliance dated 1 October 2004
- PS1 – Design dated 22 July 2002, and PS4 – Construction Review dated 20 December 2003 for the structural design and construction.

3 Sequence of events

- 3.1 The territorial authority issued an approval for a building consent (SR 92392) on 29 August 2002, based on a building certificate (C/2002-5495) dated 26 August 2002 provided by Nationwide Building Certifiers Ltd (“the building certifier”). The scope of engagement noted that the building certifier would undertake field inspections and issue the code compliance certificate.
- 3.2 The scope of the building certifier’s approval was amended on 1 January 2003, when limitations were imposed with regard to compliance with E2/AS1 “only in respect of ordinary residential buildings”. (I note that the addition to this house is generally within the scope of E2/AS1.)
- 3.3 The building certifier carried out various inspections during the construction of the building work, with a pre-exterior cladding inspection on 31 January 2003. Preline inspections (including for the tiled showers) were undertaken on 3 March 2003, 7 March 2003, 26 March 2003 and 7 April 2003, with an inspection of the existing deck substrate (prior to applying the liquid-applied membrane) on 14 April 2003 and the sewer on 29 April 2003. A pre-pour inspection was undertaken on “23 April 2004 (sic)”. The building certifier provided a monthly inspection report to the territorial authority dated 30 April 2003 for the period 1 April 2003 to 30 April 2003.
- 3.4 The only other inspection appears to be of the piles to the new timber deck on 24 April 2004. I have received no records of further inspections by the building certifier, although the applicants have noted that inspections were “carried out regularly with no problems”. The applicants have also noted that they understood that “Nationwide had done their final inspection and were due to send us the Code Compliance Certificate”. The building certifier did not issue either a building certificate or a code compliance certificate for the completed work.
- 3.5 It appears that the building certifier’s Wellington office was closed in May 2004. The building certifier’s approval as a certifier expired on 30 December 2004.
- 3.6 The designer of the building work contacted the territorial authority on behalf of the applicants on 5 May 2006 to enquire about the status of the building consent. In response, the territorial authority wrote to the designer on 8 May 2006, stating
- Wellington City Council never received notification from Nationwide that it could no longer certify this work. Neither have we received copies of building certificates confirming this work complies with the building code.

Without this information Wellington City Council is unable to be satisfied that the building work complies with the building code and so is unable to issue a Code Compliance Certificate.

The territorial authority outlined options, including the process for the applicants to apply for a certificate of acceptance (as an alternative to a code compliance certificate).

- 3.7 The applicant made an application for a determination, which was received by the Department on 14 July 2006.

4 The submissions

- 4.1 In the letter dated 13 July 2006 accompanying the application, the applicants explained that they had recently discovered that they did not have a code compliance certificate, noting:

As far as we are aware, all building work was done to a very high standard, with inspections carried out regularly with no problems.

- 4.2 The applicant also forwarded copies of:

- the plans and specifications
- the building consent documentation
- the building certifier's inspection records
- the correspondence from the territorial authority
- various producer statements, engineering calculations and other statements.

- 4.3 The territorial authority wrote to the Department on 7 June 2006, setting out the background to the dispute and noting that, contrary to section 57(3)(b) of the Building Act 1991:

Nationwide did not notify Wellington City Council that they were unable to inspect or certify this building work. Neither did they supply a section 56 building certificate confirming that the work inspected by Nationwide complied with the Building Code.

The territorial authority considered that, as it had not received the building certificates from the building certifier as required under section 56 of the Building Act 1991, it did not have sufficient grounds on which to be satisfied that the work complies with the building code and was not able to issue a code compliance certificate although it could issue a certificate of acceptance on application from the building owner.

- 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 forwarded to the parties for comment on 7 November 2006. The applicants accepted the draft.

4.6 In a letter to the Department dated 20 November 2006, the territorial authority pointed out two typographical errors in the determination and also made the following comments:

As the [tiled flooring has] suffered damage . . . within three years of the work being carried out what surety can there be that such damage will not continue to occur? Are the materials used fit for purpose? . . . It is important that the determination does not infer that compliance will be achieved simply by applying additional sealant in these areas.

. . . Council agrees that as-built plans should be supplied as part of the record for the property. These should also include the changes to the lower bathroom layout noted in the assessors report.

It is important that the determination is not restricted by listing only those areas of non-compliance the assessor identified . . . [Listing] items . . . creates the expectation . . . that compliance can be achieved by the completion of a determined number of items. It ignores the possibility that additional items may be identified during further investigation . . . by Council officers.

I have corrected the errors and addressed the above comments as I believe is appropriate. I note that paragraph 9.2 already refers to “other faults that may become apparent” when the items identified in paragraphs 7.3.1, 7.4.1 and 7.5.2 are fixed.

5 The establishment of code compliance

5.1 I note that the building certifier supplied inspection records (including handwritten inspection sheets), which appear to cover the construction up to the pre-line and exterior cladding stage. I also note that the engineer has provided producer statements for the structural design and construction of the additions and alterations. In addition an Electrical Certificate of Compliance dated 1 October 2004 has been supplied.

5.2 I consider the substance and timing of the inspections undertaken to be of more importance than the form in which the inspection records were presented. I therefore consider I am entitled to rely on the building certifier’s and the engineer’s inspection reports for these buildings, despite the form in which they were presented.

5.3 In the absence of any evidence to the contrary, and taking into account the knowledge the Department has of the general practices of the certifier at this time and engaged for this particular job, I take the view that I am entitled to rely on the inspections reported by the building certifier and by the structural engineer with regard to inaccessible building components.

5.4 A condition for this reliance is that a visual inspection of accessible components demonstrates code compliance of those components, so providing grounds to form a view that these additions as a whole comply with the building code. Accordingly I

have relied on the expert's report as a means of verification that inspection work as reported was carried out.

- 5.5 I therefore consider that the available records (together with inspections noted in paragraph 5.3 and the expert's report noted in paragraph 5.4) have allowed me to identify any areas of non-compliance and form a view as to whether the consented work, as a whole, complies with the building code.

6 The expert's report

- 6.1 The expert inspected the interior and exterior of the house on 29 August, 31 August and 6 September 2006, and furnished a report that was completed on 7 September 2006. The expert noted that the building work generally appeared to conform to the consent drawings. The expert noted that penetrations through the cladding were adequately sealed with proprietary flashings, timber facings and scribes were used at the corners, the exterior paintwork was in good condition and the "flashing installations were neatly fitted with no evidence of moisture entry at junctions or joints". The expert also noted that the timber slats to the new deck had been spaced out from the wall cladding to provide drainage gaps, and that there were no signs of moisture penetration into the floor structure of the existing upper deck.

- 6.2 The expert noted that the new timber windows had been installed to match the existing windows, with metal head flashings, timber facings and scribes fitted snugly against the weatherboards.

- 6.3 The expert took non-invasive moisture readings through linings of exterior walls throughout the house, and elevated readings were noted within and around the tiled showers in the upper and lower bathrooms. Moisture damage was observed in the vanity unit adjacent to the shower in the upper bathroom. Further invasive moisture readings were taken through the wall cladding, and the following elevated readings were recorded around the upper deck area:

- 22% to 29% at the junctions of the new metal deck upstand capping with the adjacent walls.
- More than 80% at the bottom of the south jamb of the French doors to the upper deck.

Moisture levels above 18% recorded after cladding is in place generally indicate that external moisture is entering the structure.

6.4 Exterior claddings

- 6.4.1 The expert made the following specific comments on the cladding:
- The ends of the new metal capping over the deck upstand are inadequately sealed to the existing wall, and moisture is penetrating at the junctions.
 - The bottom of the south jamb to the French doors at the existing deck is unsealed and allowing moisture penetration.

6.4.2 The expert also noted that high moisture levels were recorded in the baseboard at the northeast corner. However this area is in the existing house and is not part of the work under this building consent.

6.5 E3 Internal moisture

6.5.1 The expert made the following specific comments on the bathrooms:

- The tiled shower in the lower bathroom:
 - has failing sealant at the junction of the floor with the tiled upstand
 - has cracks in the grouting and in some of the tiles
 - has dislodged grout around the waste.
- The tiled shower in the upper bathroom:
 - has failing grout and sealants, allowing moisture to penetrate behind the shower floor and wall tiles, although the dryness of the neighbouring cupboard showed that the underlying membrane had prevented moisture penetration into the wall framing
 - has a low area of tiling beside the adjacent vanity unit, allowing water to pond and penetrate through the poor grout joints – resulting in damage to the vanity cabinet.

6.6 The remaining code clauses

6.6.1 The expert noted that, while the main staircase lacks a handrail, this area is in the existing house and is not part of the work within this building consent.

6.6.2 The expert did not note any other issues of non-compliance with relevant code clauses.

6.7 The expert also noted that he had been informed by the owners on 31 August 2006 that sealing work had been completed at the balustrade and shower upstands.

6.8 Copies of the expert's report were provided to each of the parties on 8 September 2006.

6.9 The applicants commented on the expert's report in a letter to the Department dated 11 September 2006, noting that the expert had indicated on 31 August 2006 that the sealing work to the balustrade and shower upstands was satisfactory. The applicants also made the following comments:

- The upper deck is an existing structure and is not relevant to the compliance or consent.
- Any moisture issues in the showers relate to tiles that cracked well after the work was carried out (not as a result of the building work which was inspected and passed at the time), and so the issue is not relevant to this building consent.

6.10 The territorial authority commented on the expert's report in a letter to the Department dated 15 September 2006. The territorial authority made a number of

comments that I have considered during the preparation of this determination, including the following:

- The determination should be about all work under the consent, and not limited to the cladding.
- There is evidence of structural changes from the consent drawings that are not recorded in as-built drawings.
- The engineer's construction review producer statement is not in the territorial authority's records.
- The status of the building certifier's handwritten inspection sheets is unclear.
- The monthly inspection report dated 14 April 2003 is not a valid certificate issued under section 56, and the Act only provides for a territorial authority to be able issue a certificate of acceptance.
- Territorial authorities are not required to rely on less robust information such as inspection reports in order to establish full code compliance. Such information is only relevant to a certificate of acceptance, which is subject to a lower standard of information.
- With reference to the applicant's letter (refer paragraph 6.9), the territorial authority was contacted in regard to areas outside the scope of this building consent and moisture issues relating to broken tiles were discussed. Rectification work will be required if the work does not comply at the date of issue of the code compliance certificate, notwithstanding that damage occurred following the construction work.

7 Evaluation for code compliance

7.1 Evaluation framework: exterior cladding

7.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solutions³, which will assist in determining whether the features of these houses 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.

³ 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.

7.1.2 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 determinations (refer to Determination 2004/1 et al)⁴ relating to cladding and these factors are also used in the evaluation process.

7.1.3 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.

7.2 Weathertightness risk

7.2.1 In relation to these characteristics I find that these additions and alterations:

- are built in a low wind zone
- are a maximum of two storeys high
- are fairly complex in form, with roofs at varying levels
- have timber weatherboard cladding that is fixed directly to the framing
- have eaves and verge projections of about 450mm above most walls
- have a new open timber deck, and alterations to an existing deck, that is situated over a living area
- have external wall framing to most walls that is unlikely to be treated to a level that is effective in helping resist decay if it absorbs and retains moisture.

7.2.2 When evaluated using the E2/AS1 risk matrix, these weathertightness features show that one elevation of the alterations demonstrates a high weathertightness risk and the elevations of the additions demonstrate moderate risk ratings. 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.

7.2.3 I note that the exterior walls of the new addition to this house fall within the scope of E2/AS1 as not requiring a drained cavity.

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

7.3 Weathertightness performance: exterior cladding

7.3.1 Generally the cladding appears to have been installed in accordance with good trade practice, but some junctions are not well constructed. These areas are described in paragraph 6.4.1 and in the expert's report as being the:

- unsealed junctions between the ends of the deck upstand capping and the wall
- unsealed gap at the bottom of the south jamb to the upper deck doors.

7.3.2 I note the expert's comment on the high moisture content in the baseboard at the northeast corner, and accept that this area is not part of the work under this building consent. Although this defect does not fall within the scope of this determination, I draw the matter to the attention of the applicants for their consideration.

7.4 E3 Internal moisture

7.4.1 Generally, the interior areas of the additions appear to have been constructed in accordance with good trade practice. However, there are some areas within the bathrooms to be remedied, and these are as described in paragraph 6.5.1 as being:

- in the lower bathroom; the cracked tiles, and inadequate sealant and grout
- in the upper bathroom; the inadequate tile grout and sealants, and the low tile area beside the vanity cabinet (allowing moisture penetration into the cabinet).

The failure of the tiles is of concern with respect to ongoing compliance with clause E3 and it is important to note that in both situations the tiling is intended to provide an impervious floor covering to protect the underlying timber floor from moisture in what are wet areas. The failure of some of the tiling after what is a relatively short period of use indicates that this form of floor covering used in this situation requires regular inspection and maintenance. It is noted that the tiling has a 5-year durability requirement under clause B2.

7.5 The remaining code clauses

7.5.1 I note the expert's comment in paragraph 6.6.1 with regard to the lack of a handrail to the staircase, and accept that this area is not part of the work under this building consent. Although this defect does not fall within the scope of this determination, I draw the matter to the attention of the applicants for their consideration.

7.5.2 I also note the territorial authority's comment in paragraph 6.10 on the lack of adequate documentation of structural changes made during construction, and accept that these changes should be recorded in the consent documents to form part of the territorial authority's records of the building work as constructed (together with the engineer's construction review producer statement).

8 Discussion

8.1 Exterior claddings

- 8.1.1 I am satisfied that the current performance of the cladding is not adequate because it is allowing water penetration into the house at the upper deck area. Consequently, I am satisfied that the cladding system as installed to that part of the alteration work does not comply with clause E2 of the Building Code.
- 8.1.2 In addition, the building work 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 a building to remain weathertight. Because the cladding faults on the additions and alterations are likely to allow the ingress of moisture in the future, the building work does not comply with the durability requirements of clause B2.
- 8.1.3 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 7.3.1 should be expected to result in the additions and alterations becoming and remaining weathertight and in compliance with clauses B2 and E2.

8.2 E3 Internal moisture

- 8.2.1 I consider that satisfactory rectification of the defects outlined in paragraph 7.4.1 should be expected to result in the building work being in compliance with clause E3.

8.3 Other code clauses

- 8.3.1 I consider that there are no matters under other code clauses, and relevant to the current building consent, to be rectified.
- 8.4 The outstanding documentation outlined in paragraph 7.5.2 (the structural changes from the consent drawings and the engineer's construction review producer statement), if available, should be submitted to the territorial authority to be added to the property record to complete the "as-built" record of the building work. For completeness the "as-built" record should also include the changes to the lower bathroom layout as noted in the expert's report.
- 8.5 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.
- 8.6 I decline to incorporate any waiver or modification of the Building Code in this determination.

9 Conclusion

- 9.1 I determine that the additions and alterations do not comply with clauses B2, E2 and E3 of the Building Code.
- 9.2 I also find that rectification of the items outlined in paragraphs 7.3.1, 7.4.1 and 7.5.2 to the approval of the territorial authority, along with any other faults that may become apparent in the course of that work, will consequently result in the building work being in compliance with clauses B2, E2 and E3.
- 9.2.1 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. 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.
- 9.2.2 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 should 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.
- 9.2.3 As the external wall framing of the additions to this building is not treated to a level that will resist the onset of decay if it gets wet, periodic checking of its moisture content should also be carried out as part of normal maintenance.

10 The decision

- 10.1 In accordance with section 188 of the Act, I hereby determine that the additions and alterations to this house do not comply with clauses B2, E2 and E3 of the Building Code, and accordingly confirm the territorial authority’s decision to refuse to issue a code compliance certificate.
- 10.2 I note that the territorial authority has not issued a notice to fix. A notice to fix should be issued that requires the owners to bring the additions and alterations into compliance with the building code, without specifying the features that are required to be incorporated. It is not for me to decide directly how the defects are to be remedied and the building work brought to compliance with the building code. That is a matter for the applicant to propose and for the territorial authority to accept or reject.

- 10.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 10.2. 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 28 November 2006.

John Gardiner
Determinations Manager