

Determination 2008/28

Refusal to issue a code compliance certificate for a 7-year-old alteration to a house at 80 Meadowlands Road, Templeton, Christchurch



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, the J Hendriksen Trust acting through its legal advisors (“the applicant”) and the other party is the Selwyn District Council (“the territorial authority”).
- 1.2 This determination arises from the decision of the territorial authority to refuse to issue a code compliance certificate for a 7-year-old alteration to a house because it was not satisfied that it complied with the Building Code² (Schedule 1, Building Regulations 1992).

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.

- 1.3 The matters for determination are:

Matter 1: The cladding systems

Whether the cladding systems of the building comply with Clauses B2 and E2 (see sections 177 and 188 of the Act). By “the external cladding systems” I mean the components of the systems (such as the backing materials, the flashings, the joints and the coatings) as well as the way the components have been installed and work together.

Matter 2: The durability considerations

Whether the elements that constitute the building work comply with Clause B2 “Durability” of the Building Code, taking into account the age of the alteration.

- 1.4 The notice to fix (refer paragraph 3.9) contained two matters, being the “Producer Statement Construction from the Engineer, and a Construction Statement from the exterior plasterer”. The territorial authority has confirmed that it is satisfied that the construction statement from the exterior plasterer is the only outstanding matter.
- 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. With regard to the cladding systems, I have evaluated this information using a framework that I describe more fully in paragraph 6.1.
- 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 work

- 2.1 The building work consists of alterations and additions (“the alterations”) to an existing single-storey house that is situated on a level site in a high wind zone for the purposes of NZS 3604³. The completed house is relatively simple in shape and form. The pitched roof has hip and valley junctions and, apart from one minor length that has 300mm wide eaves projections, is extended to form a veranda of varying widths at all the elevations of the house. The verandas are supported on timber posts and beams.
- 2.2 The house has two timber-framed monolithic-clad chimneys one of which is full-height and is constructed on an external wall face. The other is internal with a chimney extending approximately two metres through the roof.
- 2.3 Apart from the description in the specification that framing generally is to be “Treated Pinus Radiata”, I have not received any information as to the treatment, if any, applied to the new or existing external wall framing timbers of the completed house.
- 2.4 The existing external walls are of brick veneer construction and, apart from the garage area and the chimneys, the new external walls are of light timber frame construction with block veneer so as to match the thickness of the original walls. Both the brick and block walls have a solid cement plaster finish coat applied to them and this has a final paint finish. One wall of the garage and the chimneys are

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

timber-framed with a solid backing that is plastered and painted to match that applied to the masonry and brick walls.

3. Sequence of events

- 3.1 The original house was constructed under a building permit in 1974.
- 3.2 On 14 March 2000, the territorial authority issued a building consent (No. 001116) for the alterations, under the Building Act 1991. This essentially covered the following;
 - addition to the living room
 - internal alterations
 - perimeter verandas
 - plaster finish coat over brick veneer.
- 3.3 During May 2000, following an application by the owner, the territorial authority carried out various inspections during the construction of the building work, and a “Notice of Inspection” dated 7 August 2000, stated “All work completed”.
- 3.4 On 10 November 2000, a firm of building consultants provided the original owners with a “Producer Statement Construction Review”, which stated that, to the best of their knowledge, the “plastering work has been completed in accordance with the drawings, specifications, and other documents as necessary to which the building has been constructed and complies with the relevant provisions of the Building Code”.
- 3.5 On 7 February 2001, the territorial authority issued an interim code compliance certificate for the alterations, which noted that “further work is required to be completed and inspected as per the original Building Consent inspection conditions”. However, the certificate supplied to me does not specify the extent of the work that was to be completed and inspected.
- 3.6 In 2003 and 2007, the territorial authority carried out additional inspections of the property, with a final inspection taking place on 25 July 2007.
- 3.7 On 21 August 2007 the territorial authority wrote to the applicant, stating that due to the time that had elapsed since the building consent had been issued, the territorial authority was unable to issue a code compliance certificate for the project. This was because the territorial authority could no longer be satisfied on reasonable grounds that the building work and elements would continue to satisfy the durability provisions of the Building Code. The territorial authority also referred to the requirement for the owner to provide Producer Statements for the foundation and pre-line inspections and for the exterior plaster cladding system.
- 3.8 On 23 August 2007 a firm of consulting engineers provided the project architects with a “Producer Statement Construction Review” for the alterations in respect of the “inspections of foundations and pre-lining”. This resolved the first of the two matters raised in the Notice to Fix.
- 3.9 On 25 August 2007, the territorial authority issued a notice to fix for the property. The “particulars of contravention or non-compliance” set out on the notice stated that:

Contrary to section 40(1) of [the Act], building work has been carried out otherwise than in accordance with [the building consent], in that a Producer Statement Construction from the Engineer and a Construction Statement from the exterior plasterer have not been provided as per the conditions of the building consent.

The notice also set out the actions that the applicant was to undertake to remedy the contravention or items of non-compliance.

- 3.10 The applicant engaged the services of a firm of building consultants (“the applicant’s consultants”) to inspect the property. The consultants published a report dated 29 April 2007 that described the results of an inspection carried out on the same date. Regarding the exterior cladding, the consultants noted some defects and also reported that, based on non-invasive moisture readings, there was no evidence that moisture had entered the alterations.
- 3.11 The applicant’s consultants also wrote to the applicant’s solicitor on 29 August 2007, noting that they had discussed the solid plaster matters with the territorial authority. The territorial authority was not satisfied in respect of the durability and plaster matters. The consultants were of the opinion that the applied plaster thickness was less than that required by the relevant NZ Standard and Code of Practice. In addition, there were cracks in the plaster that might be attributed to poor curing and/or unsuitable mix proportions.
- 3.12 The Department received the application for a determination on 7 September 2007.

4. The submissions

- 4.1 In a covering letter to the Department dated 5 September 2007, the applicant’s legal advisors submitted that the determination application was in respect of the territorial authority’s decision not to issue a code compliance certificate.
- 4.2 The applicant forwarded copies of:
- some of the consent application information
 - the various producer statements
 - the applicant’s consultants’ report and correspondence of 29 April 2007
 - the correspondence with the territorial authority
 - the notice to fix issued on 21 August 2007.
- 4.3 On 25 September 2007, the territorial authority provided the Department with a submission, which stated that the territorial authority had difficulty in verifying that the alteration complied with the requirements of the Building Code. The territorial authority also had concerns regarding the solid plastering and the minimum durability periods for the building elements.
- 4.4 The territorial authority forwarded copies of:
- the plans and specifications
 - some of the consent application information and the building consent
 - the territorial authority’s inspection records
 - the notice to fix issued on 21 August 2007
 - the consulting engineers’ producer statement

- the correspondence with the applicants.
- 4.5 Copies of the documents from the parties and other evidence were provided to the other parties. Neither party made any submissions in response to the information that was provided.
- 4.6 A draft determination was issued to the parties on 31 January 2008. The draft was issued for comment and for the parties to agree a date when the building complied with Building Code Clause B2 Durability.
- 4.7 The territorial authority accepted the draft and nominated 7 February 2001 as the date when the building complied with Clause B2. In a letter to the Department, dated 25 February 2008, the applicant, through his solicitor, did not accept the draft. However, the applicant agreed that compliance with Clause B2 was achieved on 7 February 2001. The applicant noted that the draft did not take account of the matters raised in his letter to the Department, dated 25 January 2008. These matters are alluded to in paragraphs 5.6 and 5.7
- 4.8 In response to the applicant's submission I note the following:
- The Notice to Fix required the applicant to produce a construction statement regarding the plaster cladding system. (In paragraph 1.3 I note that the cladding system includes the backing materials, the flashings, the joints and the coatings). The Department normally chooses to rely on site inspections by independent surveyors. In this case, the need for an independent expert was highlighted by a report from the applicant's consultants which contained advice of the plaster defects that gave sufficient cause to doubt the accuracy of the corresponding producer statement. The expert's report therefore relates to the compliance with Clauses E2 and B2 of the cladding system as defined.
 - A number of minor defects apart from cladding matters were subsequently found during the investigation of the cladding system. When considering compliance with the Building Code I take account of such matters once they have been brought to my attention where they effect compliance with the Code and can effect the issuing of a Code Compliance Certificate.
 - Ground clearance and compliance with Clause E1: I have found that the building complies with Clause E1. However, the gulley trap to the verandah has not been constructed to prevent the ingress of surface water to meet the requirements of G13/AS2.
 - Remedial work to roof and chimney flashings: these matters are appropriately covered in paragraph 6.3.6.

5. The experts' report

- 5.1 As mentioned in paragraph 1.5, I engaged an expert, who is a member of the New Zealand Institute of Building Surveyors, to provide an assessment of the condition of those building elements subject to the determination.
- 5.2 The expert inspected the property on 26 and 29 November 2007 and furnished a report that was completed on 3 December 2007. It was noted that the overall plaster finish is of a good standard. The expert removed a section of the solid plaster at an external corner to ascertain the thickness and composition of the plaster. I am

prepared to accept that the details revealed at this location would apply to similar situations throughout the building.

- 5.3 The expert took non-invasive moisture readings internally within the house, and no elevated readings were recorded. Capacitance readings taken at the stucco cladding of the chimneys showed levels that require further investigation, and the chimneys are likely to be subject to moisture intrusion.
- 5.4 Commenting specifically on the wall and roof cladding, the expert noted that:
- as the plaster has a total thickness of 10mm and was applied in a single coat, it did not follow the requirements of the consented documents including NZS 4521⁴
 - the floor to external ground level is less than that specified in the Acceptable Solution
 - there is cracking in the plaster at some locations with significant cracks apparent at the chimneys
 - there is no evidence that sill flashings have been installed to the exterior joinery units, and the junctions of the units with the plaster are not sealed
 - the paintwork on the plaster and windows is showing signs of deterioration
 - the chimney cap flashings are not correctly formed or secured
 - some penetrations through the cladding, including the veranda beams, are inadequately sealed
 - the weep holes in the brick and block walls have either been plastered over or have not been formed
 - some roof fixings are loose and a number of hip roof flashings require re-fixing
 - In addition, the expert noted that the gulley trap under the veranda is below the level of the finished paving and does not prevent the ingress of surface water.
- 5.5 A copy of the expert's report was provided to each of the parties on 4 December 2007. The territorial authority responded in a letter dated 18 January 2008. The letter also contained details of the original permit and building consent.
- 5.6 The applicant, through his solicitor, responded to the expert's report in a letter to the Department dated 25 January 2008. The letter resubmitted both the "producer statement construction review" for Clause B1 Structure and the "producer statement construction review" for the plastering work.
- 5.7 The "producer statement construction review" for the plastering work appears to have been issued by the project manager for the work and not by the plasterer. The producer statement does not contain specific reference to the specification to which the plaster was applied. In addition, the specification for the work refers to a plaster standard (NZS 4251: 1974) that was out of date at time of construction.
- 5.8 The applicant submitted that the expert's report should have been confined to the two matters in the notice to fix. The applicant submitted that the report should take account of the plaster that was applied to concrete blockwork, and was largely

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

aesthetic, and other plaster that was well protected by the verandah. The submission did not accept that issues to do with ground clearance, roof and chimney flashings, and sealing to windows should be included in the determination as these were not in the notice to fix.

6. Matter 1: The external cladding systems

6.1 Evaluation framework

6.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solution⁵, in this case E2/AS1, which will assist in determining whether the features of the alteration are code compliant.

However, in making this comparison, the following general observations are valid:

- Some Acceptable Solutions are conservatively written to 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 one or more other provisions to compensate for that in order to comply with the Building Code.

6.1.2 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 determinations⁶ (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

6.1.3 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 any cladding system and its installation to be carefully carried out.

6.2 Weathertightness risk

6.2.1 In relation to these characteristics I find that the completed house:

- is single storey
- is in a high wind zone
- has roof extensions that provide excellent protection to the plastered walls below them
- has no decks or balconies
- has, with the exception of a small area of wall, and the chimneys, external walls that are provided with cavities.

⁵ 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.

⁶ Copies of all determinations issued by the Department can be obtained from the Department's website.

- 6.2.2 The alteration 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 is applied to determine what claddings can be used on a building in order to comply with E2/AS1. A higher risk rating will necessitate more rigorous weatherproof detailing; for example, a high risk rating is likely to necessitate particular types of cladding being installed over a drained cavity.
- 6.2.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1, show that all elevations of the house demonstrate a low weathertightness risk.

6.3. Discussion

- 6.3.1 These alterations are now seven years old and some overdue maintenance is now required to the external wooden joinery, the wall adjacent to the garage door, the bathroom window sill and the wall of the south west bedroom.
- 6.3.2 The external walls, which occur in short sections, show only some minor defects but are well protected by the veranda which surrounds the house, and have not shown any moisture ingress. I therefore consider that they meet the requirements of Clause E2. Taking account of the matters discussed in paragraph 6.3.7, I also consider that they will continue to meet Clause E2 and therefore meet the requirements of Clause B2.
- 6.3.3 I consider the expert's report establishes that the current overall performance of the chimney cladding is not adequate because it is likely that there is some water penetration into the building through the chimneys at present. Consequently, I find that that the building as a whole does not comply with Clause E2 of the Building Code.
- 6.3.4 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 alteration to remain weathertight. Because the cladding and plastering faults on the chimney are likely to allow the ingress of moisture in the future, the house as a whole does not comply with the durability requirements of clause B2.
- 6.3.5 The Acceptable Solutions for weathertightness require the internal floor to be at least 150mm above external paved areas. This has not been achieved. However the performance requirement of Clause E1 of the Building Code is that surface water resulting from a storm having a 2% probability annually shall not enter a building. In this case the original house has been in place for many years without experiencing a flood. In addition information from the territorial authority is that the area is not prone to flooding and that soils in the area are free draining. I therefore consider the house meets the requirements of Clause E1 of the Building Code.
- 6.3.6 Because the faults identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the following items will result in the building remaining weathertight and in compliance with clauses B2 and E2:
- The cracking in the plaster at some locations including the chimneys.
 - The deteriorating paintwork on the plaster and windows.

- The incorrectly formed and secured chimney cap flashings.
 - The loose roof fixings and the inadequately fixed hip roof flashings.
- 6.3.7 I note that both the applicant's consultant and the Department's expert have made note of the composition and application of the solid plaster to the brick and block walls. While I accept these comments, I am of the opinion that these do not affect the weathertightness capacity of these particular walls, which even without the applied plaster, and given the protection of a cavity would in themselves be code-compliant. It is the lack of draining weep holes and the other noted defects that are the factors which would, in other circumstances, make these particular walls non-compliant.
- 6.3.8 The expert noted a gully trap under the veranda is below surrounding paving levels and does not prevent the ingress of surface water. Although not part of this determination, in order to meet the requirements of G13/AS2 the gully trap should be amended so the overflow level of the gully dish is at least 25mm above the surrounding paving.
- 6.3.9 I emphasise that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular system has been established as being code compliant in relation to a particular building does not necessarily mean that the same system will be code compliant in another situation. This approach is particularly relevant in terms of my decision, which applies only to this particular building and the circumstances described in this determination.
- 6.3.10 Effective maintenance of claddings (in particular 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. 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 The territorial authority has concerns about the durability, and hence the compliance with the building code, of the building elements, taking into consideration the date of completion of the building work and the issuing of the interim code compliance certificate on 7 February 2001. I note that a final inspection did not take place until 2007.
- 7.2 The relevant provision of Clause B2 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 7 year delay between the completion of the building work and the applicant's request for a code compliance certificate raised the concern with the territorial authority that various elements of the building are now well through or past their required durability periods and would consequently no longer comply with Clause B2 if a code compliance certificate were to be issued effective from today's date.

7.5 It is not disputed, and I am therefore satisfied that the building elements, excluding those matter that are to be rectified, complied with Clause B2 on 7 February 2001. This date has been agreed between the parties, refer paragraph 4.7.

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 determinations⁷ (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 the views expressed in the previous relevant determinations, and therefore conclude that:

- (a) the territorial authority has the power to grant an appropriate modification of Clause B2 in respect of all of the elements of the building
- (b) it is reasonable to grant such a modification, with appropriate notification, because in practical terms the building is no different from what it would have been if a final code compliance certificate had been issued in 2001.

7.8 I strongly recommend that the territorial authority record this determination, and any modification 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 I note that the territorial authority has issued a notice to fix. Under the Act, a notice to fix can require the owner to bring the additions into compliance with the Building Code. The Building Industry Authority has found in a previous Determination 2000/1 that a Notice to Rectify (the equivalent to a notice to fix under the Building Act 1991) cannot specify how that compliance can be achieved. I concur with that view.

8.2 The territorial authority should now issue a new notice to fix that requires the owner to bring the building up to compliance with the Building Code, identifying the defects listed in paragraph 6.3.6 including any associated defects that may be

⁷ Copies of all determinations issued by the Department can be obtained from the Department's website.

discovered in the course of that work, but not specifying how those defects are to be fixed. That is a matter for the owner 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 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. 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.

9. The decision

9.1 In accordance with section 188 of the Building Act 2004, I determine that:

- (a) the building work does not comply with Clauses B2 and E2 of the Building Code, and accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate.
- (b) all the elements installed in the alteration complied with clause B2 on 7 February 2001.
- (c) 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 7 February 2001 instead of from the time of issue of the code compliance certificate but excluding any items that are to be rectified as set out in paragraph 6.3.6 of Determination 2008/28.

- (d) following the modification set out in (c) above, and when all remedial work has been carried out to the territorial authority's satisfaction, the territorial authority is to issue a final code compliance certificate in respect of the building consent as amended.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing
on 30 April 2008

John Gardiner
Manager Determinations