



Determination 2015/038

Regarding the refusal to issue a code compliance certificate for a 17-year-old house with stucco wall cladding at 419 Great North Road, Winton

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the current Act”) made under due authorisation by me, John Gardiner, Manager Determinations and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.
- 1.2 The parties to the determination are:
- the current owners of the house, R and J Dore (“the applicants”)
 - Southland District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 This determination arises from the decision of the authority to issue a notice to fix and to refuse to issue a code compliance certificate for the 17-year-old house because it was not satisfied that the building work complied with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The authority’s concerns about the compliance of the building work relate to the weathertightness and durability of the monolithic wall cladding, given its age.
- 1.4 The matter to be determined³ is therefore whether the authority was correct to refuse to issue a code compliance certificate for the reasons given in its undated refusal and its email of 23 December 2014. In deciding this matter, I must consider:
- (a) Whether the monolithic wall cladding (“the stucco”) to the house complies with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The stucco includes the components of the system (such as the plaster, the backing sheets, the flashings and the junctions with adjacent elements), as well as the way the components have been installed and work together. I consider this in paragraph 6.2.
 - (b) Whether the building elements comply with Clause B2 Durability of the Building Code, taking into account the age of the house. I consider this in paragraph 6.4.
- 1.5 The notice to fix issued on 12 March 2012 cited a contravention of Clause B1 Structure and I have taken this as referring to any potential structural implications associated with weathertightness; this is considered within the above matter.

¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.building.govt.nz or by contacting the Ministry on 0800 242 243.

² In this determination, unless otherwise stated, references to sections are to sections of the current Act and references to clauses are to clauses of the Building Code.

³ Under sections 177(1)(b) and 177(2)(d) of the Act

- 1.6 In making my decision, I have considered the submissions of the applicants, including two reports (“the 2012 report” and “the 2014 report”) by a building surveyor engaged to report on the house (“the consultant”), the report of the expert commissioned by the Ministry to advise on this dispute (“the expert”) and the other evidence in this matter.

2. The building work

- 2.1 The building work consists of a single-storey detached house with a partial sub-floor basement set into the lower side of the east-sloping site, which is in a high wind zone⁴ for the purposes of NZS 3604⁵. The expert takes the garage doors as facing west and this determination follows that convention. The house has an L-shaped plan and a fairly simple form, and is assessed as having a low weathertightness risk.
- 2.2 Construction is generally conventional light timber frame, with concrete block foundations and perimeter foundation walls, concrete floor slabs to the west and the basement, and timber sub-floor framing between. The house has monolithic wall cladding, aluminium windows and a profiled metal ‘dutch-gable’ roof with eaves greater than 600mm overall. A garden shed extends from the south basement wall.
- 2.3 The cladding is a monolithic cladding system described as stucco over a solid backing. In this instance it consists of 4.5mm fibre-cement backing sheets fixed through the building wrap directly to the framing timbers, and covered by a slip layer of wrap, wire netting-reinforced 20mm solid plaster and a flexible paint coating.
- 2.4 The consultant took timber samples from exterior wall framing and laboratory analysis confirmed framing samples as ‘most likely untreated Douglas-fir which has moderately durable heartwood in some low hazard above ground situations’, with the bottom plate sample CCA-treated to H3.2 level.

3. Background

- 3.1 The authority issued building consent No. 96/1150 to the original owner/builder on 10 December 1996 under the Building Act 1991 (“the former Act”), and construction commenced immediately.

3.2 Construction

- 3.2.1 The authority carried out three inspections from December 1996 to March 1997, including a framing inspection on 3 March 1997. The last inspection recorded on the authority’s handwritten summary was a pre-line inspection on 19 March 1997, which included a note stating ‘windows flashed and exterior plastered’.
- 3.2.2 According to the applicants, progress on the house was delayed for about ‘14 months’. It therefore appears likely that the house was substantially completed by June 1998, with no final inspection carried out at that time.

3.3 The 2012 final inspection

- 3.3.1 The applicants purchased the house in 2011 and applied for a code compliance certificate in January 2012. The authority carried out a final building inspection on 30 January 2012, which identified several outstanding items that were subsequently ticked as completed on 7 February 2012.

⁴ According to the maximum design wind speed in the timber truss design

⁵ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

3.3.2 The authority re-visited the site on 7 March 2012 and photographs were taken of the stucco cladding. A handwritten file note dated 7 March 2012 described various junctions and identified potential cladding defects.

3.3.3 The authority returned to the site on 9 March 2012 ‘to check moisture levels with non-invasive meter.’ The inspection notes state:

There are several areas that will need further investigation. Critical window sill/jamb junctions and the areas where the cladding is in contact or too close to the paving or ground levels.

Issue NTF

- Moisture levels recorded
- Ground level/paving clearances
- Lack of control joints, only one identified
- Durability – house built in 96, occupied 97-98? 14 yrs!

3.4 The notice to fix

3.4.1 The authority issued a notice to fix dated 12 March 2012 which stated that the house did not comply with Clauses B1, B2 and E2 of the Building Code. In order to remedy the non-compliance, the notice stated:

The cladding will need to be assessed by a competent weathertightness expert as testing with a non-invasive moisture meter has indicated elevated levels to the window jamb/sill junctions to the south, east and west elevations. There are also elevated levels to the base of the cladding by the garage entries.

3.4.2 The notice also stated the age of the cladding meant that its durability ‘will be considered for exclusion’ when the code compliance certificate is considered and:

The weathertightness expert will also need to evaluate the cracking and lack of control joints and provide a written assessment of the findings with any remedial work proposed. Any remedial work will require consent approval prior to any reinstatement.

3.5 The consultant’s first report in 2012

3.5.1 As the house had apparently not been repainted since completion, the applicants painted the stucco cladding then commissioned a weathertightness report on the cladding. The consultant inspected the house on 22 August 2012, providing a ‘Cladding Report’ dated August 2012 (“the 2012 report”).

3.5.2 The consultant set out the scope and exclusions of the inspection; noting that his instructions were to undertake a ‘visual inspection’ and:

...additionally obtain non-invasive moisture readings to assess the current weathertightness of the dwelling and whether the [authority was] justified in not issuing a Code Compliance Certificate for the property...

3.5.3 The consultant noted that visually the stucco ‘appeared in reasonable condition and decorative order’ for its age but closer inspection revealed some hairline cracking; some of which was in line with joinery openings. The consultant was not aware of any previous maintenance apart from the recent repainting.

3.5.4 The consultant noted no evidence of moisture in the interior and carried out non-invasive moisture testing to the stucco, with ‘slightly elevated readings’ obtained at some window sills and bottom plates. The consultant also noted some obvious water staining and elevated moisture levels at the exposed southeast corner of the sub-floor space.

- 3.5.5 The consultant commented on the following stucco areas (in summary):
- lack of clearances below the cladding at garage and west walls
 - lack of visual evidence of control joints and some cracking to the stucco
 - face-fixed windows appear to rely on paint to seal jamb flanges
 - projecting metal window sills appear not to be full sill trays
 - head flashings are embedded into plaster in some areas
 - the west bay window lacks ‘formal head flashings’, has no drip edge and the timber barge board above the window is embedded in plaster
 - some penetrations through the stucco are not adequately sealed.
- 3.5.6 The consultant recommended repairs and maintenance should be undertaken along with regular monitoring of at-risk areas. He also recommended further invasive testing of at-risk areas, together with sample testing if required.
- 3.5.7 Taking account of the limited scope and non-invasive nature of the inspection, the consultant concluded that the authority was ‘justified’ to refuse to issue a code compliance certificate.

3.6 Further correspondence

- 3.6.1 The applicants subsequently carried out some repairs and maintenance to areas identified in the consultant’s report. A handwritten note added onto the authority’s copy of the 2012 report recorded a phone call from the applicant on 26 February 2014. The note stated that the applicant ‘wants to progress, advised to engage further investigations as recommended in the report’.
- 3.6.2 The applicants therefore sought further advice from the consultant, who emailed the authority on 18 June 2014 asking for confirmation whether invasive investigations recommended in the 2012 report were still required, taking into account that:
- the cladding has now surpassed its 15 year durability requirement, assuming the provision is amended to commence from completion in about 1997
 - the owners advise that maintenance and remedial works have been undertaken as recommended in the 2012 report
 - although isolated elevated moisture readings were noted in the report, the owners are now responsible for ongoing compliance of the external envelope.
- 3.6.3 The authority responded on 7 July 2014, noting that it would not be ‘not in the position’ to issue a code compliance certificate without further invasive investigations ‘to determine the exact extent of failure’ in weathertightness. The authority considered that elevated readings recorded in 2012 indicated that the stucco had not been adequately durable for the required 15 years; and the notice to fix therefore ‘remains in place.’

3.7 The consultant’s second report in 2014

- 3.7.1 The applicants re-engaged the consultant, who inspected the house on 23 September 2014, providing a report titled ‘Weathertightness Report & Destructive Testing’ dated September 2014. The consultant noted that his instructions were to undertake ‘invasive and destructive testing’ focussed on areas identified during his 2012 visual inspection and considered to be at-risk of moisture penetration.

- 3.7.2 The consultant carried out non-invasive moisture readings of the stucco, comparing results with readings from two sheltered areas unlikely to be subject to moisture penetration; with readings to the north, south and east elevations not varying significantly from those. Elevated readings were noted at sill level and the bottom plate below the west kitchen window.
- 3.7.3 The consultant removed a small section of cladding from the jamb/sill junction to a west living area window (“cut-out 1”), taking four timber samples and noting:
- underlying 21mm thick plaster, metal net reinforcing, slip layer of black building paper over fibre-cement backing sheets
 - no obvious corrosion to fixings, metal sill or wire netting, but some corrosion to angle brace fixings and slip layer staples
 - the metal brace causing an initial elevated reading above the window
 - no visual staining to framing on the outside or the inside.
- 3.7.4 The consultant removed another small section of cladding from the bottom plate under the west window (“cut-out 2”), taking three timber samples and noting:
- no visual staining to framing on the outside or inside of the bottom plate
 - samples of the fibre-cement backing sheet and slip layer were also taken.
- 3.7.5 The consultant also removed a timber sample from the exposed bottom plate to the southeast corner of the subfloor framing, where high moisture levels had been recorded in the 2012 report.
- 3.7.6 The consultant forwarded the samples for analysis and the laboratory report, dated 27 September 2014, noted the following (in summary)
- samples 1 to 7 from framing were likely to be untreated Douglas fir
 - sample 10 from the basement bottom plate was CCA treated to H3.2 level
 - all timber samples contained fungal growth but no significant decay and were unlikely to need replacement
 - fibre-cement and building paper samples had mould growth and deterioration
 - all samples had been exposed to moisture, some close to conditions conducive to decay and future severe decay may be likely.
- 3.7.7 In his conclusions the consultant included the following comments (in summary):
- The original construction in 1996 was likely to have complied with Clauses E2 and B2, with design and detailing considered standard practice at the time.
 - The stucco cladding was in place for more than the 15 years required, with no evidence of significant moisture penetration into the structure during that time.
 - The identified defects may allow moisture ingress, but the risk can be mitigated by monitoring, and repaired as part of ‘normal maintenance’.
 - The authority may issue a code compliance certificate if it is satisfied that the work complied with the Building Code that applied at the time the consent was issued in 1996, and the durability provisions should be modified to apply from the date of substantial completion.

- 3.7.8 The consultant concluded that the house, if:
...appropriately maintained and re-coated strictly in accordance with the manufacturer's recommendations, should continue to meet the ongoing requirement of clauses E2 and B2 of the Building Code.

3.8 The authority's refusal to issue a code compliance certificate

- 3.8.1 In an email dated 23 December 2014, the authority stated that it had reviewed the consultant's report and the biodeterioration report, noting that mould on building paper and fibre-cement samples indicated that moisture must have been elevated at some stage; and this 'may well occur again depending on ongoing maintenance of the paint system and climatic conditions'.
- 3.8.2 The authority therefore considered the risk was too great for it 'to take on the liability of issuing' a code compliance certificate, and noted its concerns about modifying the commencement of durability provisions as the process 'has not been tested in the courts'.
- 3.8.3 In a subsequent undated statement to the applicants titled 'Refused – Code Compliance Certificate Notification', the authority confirmed its refusal to issue a code compliance certificate and noted defects identified by the consultant (in summary):
- Insufficient cladding clearances to ground and paving at garage and west wall.
 - No evidence of control joints to the stucco.
 - Apparent lack of jamb flashings, no capillary gap at head flashings and inadequate sill flashings, with the projecting metal window sills appearing to be decorative rather than full sill trays.
 - Penetrations through the stucco not confirmed as sealed.
- 3.8.4 The authority suggested the applicants apply for a determination.
- 3.9 The Ministry received an application for a determination on 8 January 2015 and sought further records and information, which was received from the applicant on 9 February 2015. I have included that information in the below submissions.

4. The submissions

4.1 The applicants' submission

- 4.1.1 In a statement dated 5 February 2015, the applicants confirmed that they were disputing the authority's decision to refuse to issue a code compliance certificate for the house. The applicants outlined some of the background to the dispute, noting that defects identified in the consultant's 2012 had been rectified, including (in summary):
- removal of a garden watering system installed by the owner/builder, which had sprayed water against some of the lower wall cladding over a prolonged period
 - a drainage channel installed to improve cladding clearances at the garage
 - window junctions raked out and resealed with a modified silicon sealant
 - penetration junctions raked out and resealed with silicon sealant
 - the walls repainted as they had not been painted since completion.

4.1.2 The applicants noted that they did not dispute the consultant's findings and had 'fixed the highlighted problems', but added:

We suggest that the report from [the consultant] needs to be considered and read in full as part of the decision making progress.

4.1.3 The applicants provided copies of:

- the consent documentation
- extracts from the authority's property records, including inspection notes
- the notice to fix dated 12 March 2012
- the consultant's 2012 and 2014 reports:
 - the 'Cladding Report' dated August 2012
 - the 'Weathertightness Report & Destructive Testing' dated September 2014
- correspondence between the consultant and the authority
- the authority's emailed refusal to issue a code compliance certificate, dated 23 December 2014
- the undated 'Refused – Code Compliance Certificate Notification'
- various other statements and other information.

4.2 The authority did not acknowledge the application by returning a completed form and made no submission in response to the application.

4.3 A draft determination was issued to the parties for comment on 2 June 2015.

4.4 In responses received on 11 June 2015 the authority and the applicants both accepted the draft without further comment.

5. The expert's report

5.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors and inspected the house on 29 April 2015, providing a report completed on 20 May 2015. The parties were provided with a copy of the report on 22 May 2015.

5.2 The stucco wall cladding

5.2.1 The expert noted that the stucco surface appeared in 'very good condition with a full paint cover'. Assessing recent remedial work, the expert noted 'no evidence at all of any disruption or reappearance of the past plaster cracking' and there was no sign of any 'moisture related staining, damage or distress' to the cladding.

5.2.2 The expert noted that the cladding was 'traditional stucco plaster' with wire netting reinforcing, a black building paper slip layer and 4.5mm fibre-cement substrate. The backing sheets were fixed through a building wrap to framing. At the bottom of the upper wall stucco, a metal 'base flashing' extended some 100mm behind the plaster – above the basement stucco or the plastered concrete block foundation walls.

5.2.3 Windows were face-fixed, with metal head flashings and a metal box section that projects out through the stucco to form a 'window sill'. The expert considered that jamb and head junctions were constructed to 'common details of the time' and appeared satisfactory, given the deep soffit protection and their performance.

5.3 Control joints

- 5.3.1 The expert noted that the requirement for control joints in line with window and door jambs would obviate the need for further joints at 4 metre minimum centres in accordance with NZS 4251⁶. He observed only one ‘deliberate’ joint installed to the west elevation but no visual evidence of others.
- 5.3.2 The expert also noted that finish coats of plaster and paint are able to cover and disguise such joints from view, adding that there was currently ‘no evidence of uncontrolled cracking or continuing movement of the stucco’ (I consider this in paragraph 6.2.7).

5.4 Review of the authority’s inspections

- 5.4.1 The expert reviewed the background, noting final inspections and the non-invasive moisture readings taken by the authority and referred to in the notice to fix. The expert accepted the authority’s identification of ‘high risk or at risk construction detailing that was normal construction in 1996 but not now compliant’.
- 5.4.2 However, the expert considered that using surface moisture readings onto stucco surfaces was ‘flawed’, because solid plaster absorbs moisture that will move downwards and cause higher moisture readings at lower levels or where trapped. This was shown by the highest non-invasive readings being at the edge flashing at the bottom of the stucco and above sides of metal sills. (I note that the fibre-cement backing sheets will also absorb and hold moisture).

5.5 Review of the consultant’s reports

- 5.5.1 The expert reviewed the 2012 report, noting that it appropriately identified various cladding defects and areas at risk of moisture penetration; concluding that the cladding was in reasonable condition for its age but required some repairs and maintenance. The report recommended further invasive investigation.
- 5.5.2 In regard to the consultant’s 2014 report on invasive and destructive investigation, the expert included the following comments (in summary):
- Readings on and into stucco at the bottom plate to the northeast subfloor corner were highly elevated, although readings into the exposed bottom plates were low. This was caused by moisture being absorbed into plaster and fibre-cement and then draining to the bottom, where it is trapped by the metal base flashing without penetrating further into the framing (see paragraph 5.4.2).
 - Elevated stucco readings at the west bottom plate and jamb/sill junction were not confirmed by invasive and destructive testing to expose and moisture test underlying framing – and were also likely to have been affected by interference from the metal base flashing and metal angle brace respectively.
 - The laboratory analysis found the seven timber framing samples ‘to be Douglas fir, sound and not requiring replacement, no incipient brown rot detected, free from toxicogenic mould and any treatment.’
 - The samples of fibre-cement and black building paper slip layer were likely to have been taken from the cut-out at the west bottom plate, where moisture in the plaster and fibre-cement is trapped against the bottom flashing upstand.

⁶ New Zealand Standard NZS 4251: Solid plastering; Part 1: 1998 Cement plasters for walls, ceilings and soffits

5.6 Repairs and maintenance by the owners

5.6.1 The expert viewed photographs of repairs undertaken by the applicants in response to the consultant's investigations and noted the following:

- Sealants were replaced prior to repainting the walls.
- Strip drainage was installed along the west garage wall where cladding clearance was insufficient, and appears satisfactory.
- The bottom of the garage door jambs had been recently cut to increase clearance.
- Down pipe blockages had caused gutter overflows, resulting in high moisture levels in the southeast corner of the basement framing in 2012 – blockages remedied, with investigations confirming that area is now dry.
- The garden sprinkler that had wet lower walls has been removed, and the expert noted that this may have been another cause of fungi growth in some samples.

5.7 Moisture testing

5.7.1 The expert inspected the interior of the house, observing no signs of moisture-related staining or damage. Non-invasive moisture readings were taken at skirting levels and around all windows and doors and no elevated readings were noted. The consultant had also scanned exterior walls from the interior using thermal imaging techniques to show any thermal anomalies requiring invasive moisture testing or further investigation. No temperature anomalies were recorded.

5.7.2 The expert took invasive moisture readings through the stucco into the framing under jamb/sill junctions on all elevations, with particular emphasis on the west elevation where past non-invasive readings were elevated. The seven invasive readings taken varied from 9% to 12%, which the expert considered low because he 'expected equilibrium readings at this time of year in Southland to be about 13.5%'. The expert also observed that the wood felt sound, with 'bright and crisp' drillings.

5.7.3 The expert also investigated basement framing, which is exposed on the north, south and part of the east walls. The seven invasive moisture readings of framing ranged from 13% to 17%, which was expected due to the damper subfloor conditions. The expert observed no evidence of moisture penetration or timber damage to framing.

5.8 Invasive investigations

5.8.1 Cut-out 1: the applicant had removed a section of lining to the bottom plate between the garage doors, where stucco had previously lacked clearance above the paving and elevated moisture levels had been recorded in the past. The expert inspected the timber and took invasive moisture readings, noting:

- 11% to 13% moisture levels in garage door jamb studs and bottom plate
- bottom plate had been vulnerable to moisture prior to strip drain installation
- another moisture reading of 16% was recorded to the north of the strip drain
- some water staining was noted so a timber sample was taken for testing
- analysis showed the sample 'exhibited occasional hyphae' but the wood was sound and could be left in place.

5.8.2 Cut-out 2: the applicant had removed a section of lining at the back of the kitchen cupboard in the west bay window, where at-risk junctions had been identified and past elevated non-invasive moisture levels had been recorded. The expert inspected the timber and took invasive moisture readings, noting:

- 11% moisture level in the bay window bottom plate
- timber and cavity were in clear, dry condition, with no evidence of damage.

5.8.3 Cut-out 3: the expert removed a small section of stucco at the west bottom plate, where cladding clearances to the garden were limited and elevated non-invasive moisture levels had been recorded in the past. The expert noted:

- high moisture levels in plaster and fibre-cement against the upstand of the metal base flashing, where absorbed moisture had accumulated
- 11% and 13% moisture levels in the bottom plate and stud
- timber and cavity were in clear, dry condition, with no evidence of damage.

5.9 Conclusions

5.10 Based on his invasive investigations, the expert considered that ‘the stucco plaster cladding has performed satisfactorily’ for more than 17 years and, given appropriate maintenance, should continue to do so. The expert concluded:

...it is my view that there is no evidence from the investigations to date of any significant conditions giving rise to undue dampness or damage having occurred to the dwelling from the stucco plaster cladding system.

5.10.1 The expert’s opinions on the authority’s list are summarised as follows:

Items per authority’s refusal (see paragraph 3.8.3)	Expert’s opinion	Relevant paragraphs
Cladding clearances	Strip drain installed Garden areas lowered Satisfactory in circumstances	Paragraph 5.6.1
Control joints	Likely to have been installed Satisfactory in circumstances	Paragraph 5.3
Window junctions	Common at time of construction Junctions now re-sealed Sheltered by deep eaves	Paragraph 5.2.3
Penetrations through claddings	Penetrations now re-sealed Satisfactory in circumstances	Paragraph 5.6.1

6. Discussion

6.1 Compliance generally

- 6.1.1 I note that the building consent was issued under the former Act, and accordingly the transitional provisions of the Act apply when considering the issue of a code compliance certificate for work completed under this consent. Section 436(3)(b)(i) of the transitional provisions of the current Act requires the authority to issue a code compliance certificate if it 'is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted'.
- 6.1.2 The authority has expressed its concern regarding its potential liability regarding the age of the house (refer paragraph 3.8.2). As noted in previous determinations, while an authority remains potentially liable for the issue of any code compliance certificate, it is required to consider the relevant provisions of the Act when deciding whether to issue a code compliance certificate. Those provisions do not provide for an authority to refuse to issue a code compliance certificate because there may be potential liability associated with the performance of that function. An authority has a range of statutory functions under the Act and in my view it cannot refuse to carry these out because there may be potential liability associated with the performance of those functions.

6.2 The external envelope

- 6.2.1 In order to determine whether the authority correctly exercised its power in refusing to issue a code compliance certificate, I must consider whether the building work in dispute complies with the Building Code that was current at the time the consent was issued. The following paragraphs therefore consider the code compliance of the stucco wall cladding.
- 6.2.2 The evaluation of building work for compliance with the Building Code and the risk factors considered in regards to weathertightness have been described in numerous previous determinations (for example, Determination 2004/1).

Weathertightness risk

- 6.2.3 This house has the following environmental and design features, which influence its weathertightness risk profile:

Increasing risk

- the house is in a high wind zone
- the stucco cladding is fixed directly to the framing
- the untreated external wall framing is not sufficiently durable to provide ongoing resistance to decay if it absorbs and retains moisture

Decreasing risk

- the house is generally single-storey and fairly simple in plan and form
- there are few complex junctions and penetrations through the cladding
- there are generous roof overhangs to shelter the stucco.

- 6.2.4 Using the E2/AS1 risk matrix to evaluate these features, elevations are assessed as having a low weathertightness risk rating. If current E2/AS1 details were adopted to

show code-compliance, drained cavities would be required for all elevations. However, this was not a requirement at the time of construction in 1997.

Weathertightness performance

- 6.2.5 I note that an application can be made to the authority for a modification of durability requirements to allow durability periods to commence from the date of substantial completion in about 1998. I have taken that anticipated modification into account when considering the weathertightness performance of the claddings.
- 6.2.6 Taking account of the expert's report, the stucco cladding appears to have been installed in accordance with good trade practice⁷ and the standards at the time⁸.
- 6.2.7 With regard to the lack of evidence that control joints have been installed in plastered walls beyond 4m wide, I note the following:
- The stucco appears to have been installed according to good trade practice onto framing above rigid concrete block foundation walls.
 - A flashed horizontal joint separates the partial subfloor basement walls from upper walls of the eastern wing.
 - All drying shrinkage in the plaster and supporting framing would have occurred during the early part of the period since construction.
 - Some minor cracking is to be expected in response to environmental factors such as imposed temperature and moisture effects, wind, earthquake forces and seasonal movements.
 - The stucco has shown no signs of significant cracking or associated moisture entry after more than 17 years, which may be due either to the inclusion of control joints below the top coats of plaster or an indication that the stucco is adequate despite their omission.
- 6.2.8 I also note the expert's conclusions in regard to the items identified by the authority (see paragraph 5.10.1), and accept that these areas are adequate in these particular circumstances.
- 6.2.9 Notwithstanding that the stucco is fixed directly to timber framing, thus inhibiting drainage and ventilation behind the cladding, I note certain factors that assist the performance in this case:
- The stucco cladding is installed according to good trade practice.
 - The cladding is sheltered by generous roof overhangs.
 - After 17 years, there is currently no evidence of timber damage to the framing.

Weathertightness conclusion

- 6.2.10 The expert's report together with the consultant's reports provide me with reasonable grounds to conclude that the current performance of the stucco is adequate because it is preventing water penetration at present, and I am consequently satisfied that the house currently complies with Clause E2 of the Building Code. The reports also satisfy me that there has been no damage to the framing since its completion and I therefore conclude that the timber framed structure of this house has remained sound and in compliance with Clause B1 of the Building Code.

⁷ BRANZ Good Practice Guide Stucco, February 1996

⁸ New Zealand Standard NZS 4251: Solid plastering; Part 1: 1998 Cement plasters for walls, ceilings and soffits

- 6.2.11 The durability requirements of Clause B2 include a requirement for wall claddings to remain weathertight for a minimum of 15 years. A modification of the durability provisions to allow provisions to commence from the date of substantial completion in 1998 will mean that wall claddings have already met the minimum life required by the Building Code for the cladding and will therefore also comply with Clause B2 of the Building Code for that period.
- 6.2.12 It is emphasised that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular cladding system has been established as being code-compliant in relation to a particular building does not necessarily mean that the same cladding system will be code-compliant in another situation.

6.3 Maintenance

- 6.3.1 In the case of this house, the expert has reported that the recent repairs and maintenance carried out by the owners have reduced the risk of future moisture penetration, but I note that this maintenance was overdue at the time it was undertaken in response to the consultant's 2012 report.
- 6.3.2 Although a modification of durability provisions will mean that wall claddings have already met the minimum life required by the Building Code, the expected life of the building as a whole is considerably longer. Careful maintenance is therefore needed to ensure that the stucco continues to protect the underlying framing for the minimum required life of 50 years for the structure.
- 6.3.3 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. The Ministry 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).

6.4 The durability considerations

- 6.4.1 The relevant provision of Clause B2 of the Building Code 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).
- 6.4.2 In this case the 17-year delay since the completion of the house in 1998 raises concerns that many elements of the building are now beyond 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.
- 6.4.3 I have considered this issue in many previous determinations and I maintain the view that:
- (a) the authority has the power to grant an appropriate modification of Clause B2 in respect of all the building elements, if requested by an owner
 - (b) it is reasonable to grant such a modification, with appropriate notification, as in practical terms the building is no different from what it would have been if a code compliance certificate for the building work had been issued at the time of substantial completion in 1998.

I therefore leave the matter of amending the building consent to modify Clause B2.3.1 to the parties to resolve in due course.

7. What happens next?

- 7.1 The parties should agree on a date in 1998 when the house was substantially completed and the applicants should apply for an amendment to the building consent to the effect that Clause B2.3.1 applies from that date instead of from the time of issue of the code compliance certificate for all the building elements.

8. The decision

- 8.1 Providing Clause B2 is appropriately modified to allow the durability provisions to apply from the substantial completion of the house in 1998, in accordance with section 188 of the Building Act 2004 I hereby determine that the house complies with the relevant clauses 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 Ministry of Business, Innovation and Employment on 22 June 2015.

John Gardiner
Manager Determinations and Assurance