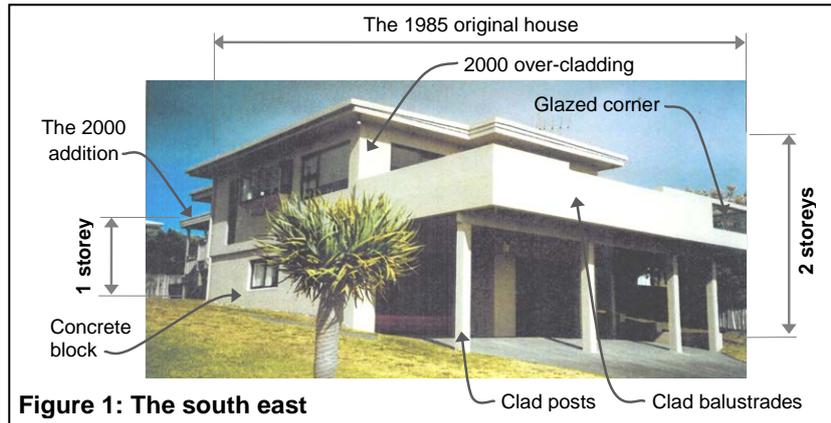




## Determination 2019/007

# The refusal of a code compliance certificate for 18-year-old additions and alterations to a house at 26 Day Dawn Crescent, Omaha, Auckland



### Summary

This determination considers an authority's refusal to issue a code compliance certificate for 18-year-old additions and alterations to an existing house. The cladding had been changed from what was consented and the changed cladding had also been applied to the remainder of the existing building. The determination considers the authority's reasons for the refusal and whether the items identified by the authority are compliant with the Building Code.

## 1. The matters to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> ("the Act") made under due authorisation by me, Katie Gordon, Manager Determinations, 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 owner of the building, J Evans ("the applicant")
  - Auckland Council<sup>2</sup> ("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 refuse to issue a code compliance certificate for 18-year-old alterations and additions to a house built in about 1985. The refusal arose because the authority is not satisfied that the building work complies with the relevant clauses<sup>3</sup> of the Building Code (First Schedule,

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

<sup>2</sup> Before the application was made, Rodney District Council was transitioned into the Auckland Council. The term authority is used for both.

<sup>3</sup> In this determination, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

Building Regulations 1992). The authority's concerns primarily relate to the weathertightness and durability of the altered house.

- 1.4 The matter to be determined<sup>4</sup> is therefore whether the authority was correct to refuse to issue a code compliance certificate for the reasons given in its letter dated 9 February 2018 (see paragraph 2.9). In deciding this, I must consider whether the external building envelope of the altered house complies with Clause B2 Durability and Clause E2 External moisture of the Building Code that were in force at the time the original consent was issued. The building envelope includes the components of the systems (such as over-laid monolithic wall cladding, the deck addition, the altered balustrade to the original front deck, the windows and the roof cladding) as well as the way the components have been installed and work together.
- 1.5 I note that the applicant can apply to the authority for a modification of durability provisions to allow the durability periods specified in Clause B2.3.1 to commence from the date of substantial completion during 2001. Although I leave this matter to the parties to resolve in due course, I have taken the anticipated modification into account when considering the performance of the claddings.
- 1.6 In making my decisions, I have considered the submissions of the parties, 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 and background**

- 2.1 The building is situated on a west-sloping coastal site in a very high wind zone<sup>5</sup> for the purposes of NZS 3604<sup>6</sup>. The original three-bedroom house was built in about 1985 ("the original house") and included a concrete block basement set within the slope of the site and a deck to the east as shown in Figure 2. The single-storey extension to west built in 2000 ("the extension") provided a master bedroom and expanded bathroom. The expert has taken the garage doors as facing east and this determination follows that convention.
- 2.2 Construction of the extension is generally conventional light timber frame; with concrete piles, timber-framed floor, monolithic wall cladding, aluminium windows and low-pitched trough section metal roofing to match the original roof. An original concrete water tank to the west has been retained and is now located under the extension.

### **2.3 The wall claddings**

- 2.3.1 The cladding system applied to the exterior timber framed walls is an EIFS<sup>7</sup> cladding system, which consists of 60mm proprietary system comprising expanded polystyrene sheets fixed over the fibre-cement sheet. The polystyrene is finished with a mesh reinforced plaster system and flexible acrylic paint system. The proprietary system includes purpose-made flashings to windows, edges and other junctions.

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<sup>4</sup> Under sections 177(1)(b) and 177(2)(d) of the Act

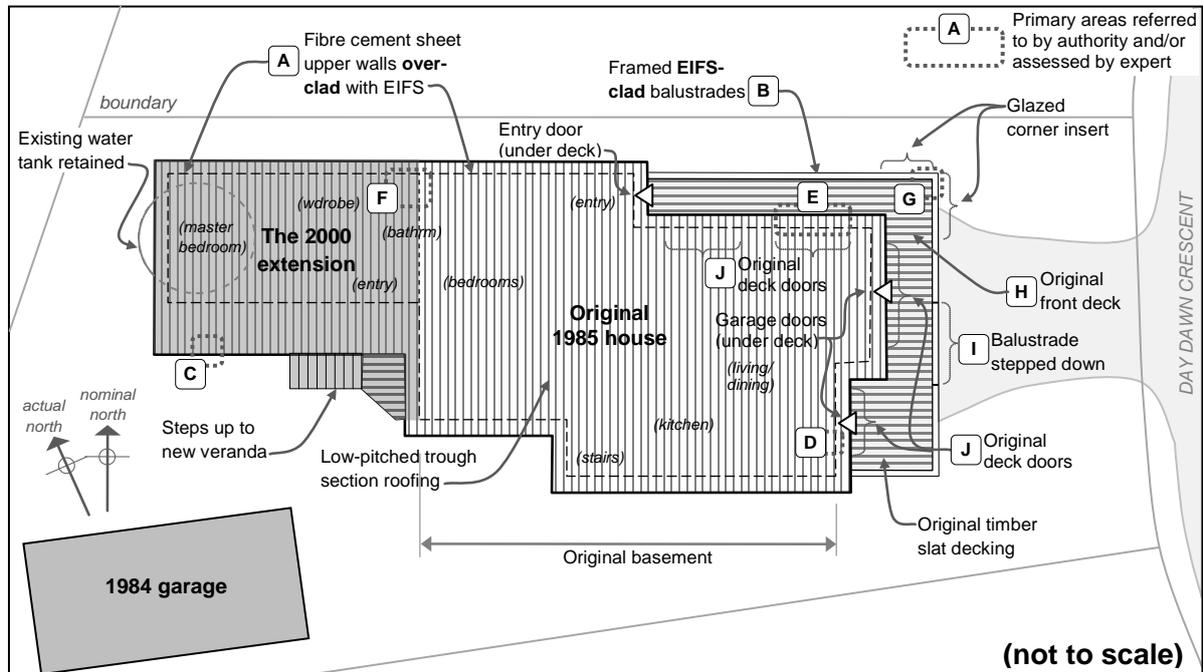
<sup>5</sup> According to the bracing calculations

<sup>6</sup> New Zealand Standard NZS 3604:2011 Timber Framed Buildings

<sup>7</sup> Exterior Insulation and Finish System

- 2.3.2 The original house was clad in flat fibre-cement sheet with a patterned surface to imitate vertical boarding. The consent drawings for the extension call for the extension wall cladding to be fibre-cement sheet 'to match existing', with the subfloor to be clad in 'plastered' fibre-cement sheet to match the original plastered concrete block basement walls.

**Figure 2: Approximate site plan**



- 2.3.3 Because the fibre-cement sheets installed to the extension did not match the pattern of the cladding on the original house, it was decided to over-clad both the original upper level of the original house and the fibre-cement to the extension's walls with EIFS in order to 'make the house look uniform'. In the case of the extension sub-floor, polystyrene backing sheets were fixed directly to sub-floor framing without the fibre-cement sheet behind.

## 2.4 The decks

- 2.4.1 The extension includes a timber deck to the south below the veranda formed by the overhang of the new roof. The deck floor is spaced timber decking with open timber balustrades between veranda posts.
- 2.4.2 An early undated photograph provided by the applicant shows the front deck (Area H) supported on steel posts, with open timber balustrades that included diagonal members spanning between widely-spaced uprights.
- 2.4.3 During the alterations, the balustrades and posts were framed and clad with EIFS fixed directly to the framing. The front deck now includes the original timber decking with EIFS-clad support columns and balustrades. The EIFS top to the balustrade is flat, with a central section stepped down (Area I) and glazed corner panels inset at the northeast corner.

## 2.5 Timber treatment

- 2.5.1 The specifications for both the original house and the extension are identical and call for framing timber to be 'treated Radiata Pine'. The expert took timber samples and forwarded them to a testing laboratory for analysis. Samples taken from boundary

joists to the original house tested negative for boron, copper and tin. However, given the construction of the original house in 1985, I consider that the original timber framing is generally likely to be treated.

- 2.5.2 The sample from the extension's exterior wall framing was confirmed as equivalent to H1.2<sup>8</sup>. Samples taken from infill balustrade framing to the original deck were confirmed as CCA<sup>9</sup> treated likely equivalent to H3.2<sup>10</sup>. I therefore consider that the wall and balustrade framing of this house is likely to be treated to a level that will provide resistance to fungal decay.

## 2.6 Construction of the alterations

- 2.6.1 The authority issued a building consent (No. ABA 1537) to the applicant on 3 August 2000 under Section 35 of the Building Act 1991 ("the former Act") for 'Additions & Alterations' to an existing dwelling. During 2000, the authority carried out various inspections, including pre-line and exterior pre-plaster on 15 November 2000, which noted:

Poly on outside walls...

Poly was in place with big washer used for fixing. Flashings in place on openings. OK to plaster<sup>11</sup>

- 2.6.2 The post-line inspection was the last inspection recorded for the alterations. Although it appears that the extension was completed during 2001, a final inspection was not requested until 2007.

## 2.7 The 2007 final inspection

- 2.7.1 The authority carried out the first final inspection on 19 February 2007 and the inspection summary included the following notes:

- Exterior cladding is 60mm [EIFS] direct fixed to framing.
- Owner advises [fibre-cement] sheet lining fixed as per consent then [EIFS] fixed over.

The inspection record identified 'documentation to supply' and items to complete including subfloor fixings, and a graspable handrail to the steps to the deck.

- 2.7.2 In a letter to the applicant dated 21 February 2007, the authority listed the three outstanding items and stated that a 'final inspection (recheck)' was required when work was completed. The letter also listed the following 'paper work required' (in summary):

- application for code compliance certificate, application for modification of durability provisions
- electrical certificate of compliance, licensed plumber's details, stormwater and sewer pipe inspections
- producer statement and warranties for waterproof membrane to tiled shower
- application for consent amendment for EIFS cladding, producer statement and warranties for EIFS cladding.

<sup>8</sup> Timber treatment class to New Zealand Standard NZS 3602: Part 1: 2003 Timber and wood-based products for use in building

<sup>9</sup> Copper chrome arsenate preservative

<sup>10</sup> Timber treatment class to New Zealand Standard NZS 3602: Part 1: 2003 Timber and wood-based products for use in building

<sup>11</sup> I note that no mention was made of the alterations to the original front deck balustrade.

## **2.8 The 2017 & 2018 final inspections**

- 2.8.1 The applicant did not apply for a code compliance certificate until 20 November 2017 and the authority carried out a partial final inspection on 8 December 2017.
- 2.8.2 The inspection was recorded as a 'FAIL' and included:
- ... to install graspable handrail to stairs ...
  - [infill] stair risers where [gap] exceeds 100mm.
  - Install smoke alarms ...
  - Clear stones and ground away from cladding.
- 2.8.3 The house was re-inspected on 23 January 2018. The inspection noted the work had been completed in accordance with the consented plans and the inspection resulted in a 'pass'.
- 2.8.4 The authority carried out a further final inspection on 7 February 2018, and the 'Durability final inspection checklist' records the date of last inspection as 23 January 2018 confirming that the house had been re-inspected. The 7 February 2018 inspection recorded smoke alarms as a 'fail' and noted:
- Over clad / Alternative Solution to be investigated further.
  - Letter to follow.

## **2.9 The authority's refusal to issue a code compliance certificate**

- 2.9.1 The authority wrote to the applicant on 9 February 2018, referring to the last inspection, and stating that the code compliance certificate was refused under section 95A because:
- Following the site inspection and subsequent peer review process, Council could not be satisfied on reasonable grounds that building works comply with the NZ Building Code, or that it is performing as intended.
  - To advance this process we recommend that you engage the services of a suitably qualified individual (Building Surveyor) who is qualified in Weather Tight assessment and Remedial Design.
- 2.9.2 The authority stated that 'some of the items identified (not limited to)' were:
1. Cladding
    - a) Addition to existing dwelling appears to have been over clad
  2. Internal
    - a) Smoke alarm located in the dead zone (within 200mm of the wall to ceiling)
  3. Other
    - a) Existing dwelling appears to have been over clad
  4. Roof
    - a) Not inspected due to access
- Please note this is not an exhaustive list of items as a visual inspection with limited access has been completed.
- 2.9.3 The authority also listed documentation it required. After speaking to the authority, the applicant decided to seek a determination on the matter. The Ministry received an application for a determination on 23 February 2018 and sought further information and records from the authority, which was provided on 8 June 2018.

### **3. The submissions and the draft determination**

#### **3.1 The initial submissions**

3.1.1 The applicant's submission took the form of an undated statement addressed to the authority. The applicant sent out the background to the situation; describing the recent final inspections and noting that the authority's main concern appeared to be the over-cladding of the house. The applicant noted that he and the builder had not been aware that approval for this was needed at the time. The owner said that the house had never leaked and was warm and dry.

3.1.2 The applicant provided copies of:

- the consent drawings for the extension, and the inspection summary
- the records for the final inspections in December 2017 and February 2018
- the letter from the authority dated 9 February 2018
- various photographs and other information.

3.1.3 The authority made no submission but forwarded copies of the property file, which contained additional documents pertinent to this determination, including:

- building permit information for the original house
- the specifications and other consent documentation for the extension
- the letter to the applicant dated 21 February 2007.

#### **3.2 The draft determination and submissions received**

3.2.1 A draft determination was issued to the parties for comment on 29 October 2018.

3.2.2 The applicant responded to the draft determination on 22 November 2018. The applicant did not accept the draft and provided an email he had sent to the authority of the same date that said (in summary):

- A specialist roofer had fixed the problem found by the expert (refer paragraph 4.3.4, 2<sup>nd</sup> bullet point) and 5 photographs illustrating this were attached.
- A builder had looked at the elevated moisture to the balustrade and the "window area" who advised "this would dry out and [the builder] had sealed the area".
- Two areas of the existing balustrade had been reduced in height "to allow viewing". It was suggested these areas be built up with glass panels to meet authority approval.

3.2.3 The authority accepted the draft on 26 November 2018 noting "the building consent will require to be amended to remove all unconsented building work which should properly have been consented before being undertaken...".

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

#### **4.1 General**

4.1.1 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 25 July and 31 August 2018; providing a report that was completed on 26 September 2018, which was forwarded to the parties on 17 October 2018.

- 4.1.2 The expert noted that the 'EIFS cladding is in a reasonable condition commensurate with its age' although the flat tops of the clad balustrade were cracked. The metal roofing to the extension was also in reasonable condition although aspects were noted as 'below standard'.
- 4.1.3 Although the EIFS and roofing had been repainted recently, maintenance of some elements of the original house was overdue; such as aluminium joinery with 'various missing and/or deteriorated rubber seals providing clear and open paths for water to enter the frames' and some corroded deck joist hangers.

## 4.2 Moisture investigations

- 4.2.1 The expert took sample invasive moisture readings using long probes through linings and trim or into exposed subfloor timbers at areas associated with the EIFS over-cladding of the extension and the original house. Of the 17 areas tested, most readings varied from 10% to 17% except for:
- 21% and 22% below the south roof edge to the extension (Area C)
  - 50% to 90% to the northeast corner of the EIFS-clad balustrade (Area G).
  - beneath the front deck ranchsliders:
    - 23% in the garage east boundary joist (Area D)
    - 24% in the garage north boundary joist (Area E).
- 4.2.2 The expert noted that the original deck sliding doors are located above the original basement walls, where no over-cladding or other alterations had been carried out. He also lifted carpet at the deck north doors and observed water stained flooring. The expert concluded that moisture penetration into boundary joists was related to the construction of the original house and not to the EIFS over-cladding.
- 4.2.3 The expert removed small sections of cladding or lining at sample locations to observe the underlying construction to the following areas (see Figure 2):

### East boundary joist to garage (Area D)

- Cut-out 1: through the garage ceiling lining, where 'water staining and efflorescence to the internal face of the concrete masonry and water staining to the plasterboard' was observed. The following was noted:
  - elevated moisture levels in the boundary joist
  - obvious moisture in the fibreglass floor insulation
  - Sample 1 extracted for analysis.

### North boundary joist to garage (Area E)

- Cut-out 2: through the garage ceiling lining, where 'water staining and efflorescence to the internal face of the concrete masonry and water staining to the plasterboard' was observed. The following was noted:
  - elevated moisture levels in the boundary joist
  - water stains on the joist and particle board flooring, with water stains adjacent to the deck door above
  - Sample 2 extracted for analysis.

### The northeast corner of the front deck (Area G)

- Cut-out 3: through EIFS cladding below the corner glazing where the balustrade cladding was cracked and moisture stains behind the cladding were observed from beneath. The following was noted:
  - fibre-cement sheet fixed directly to the balustrade framing, EIFS fixed to the fibre-cement
  - a mix of original uprights and new infill framing
  - very high moisture content in framing, with timber visibly wet
  - Sample 3A extracted from new horizontal member (92<sup>12</sup>% moisture)
  - Sample 3B extracted from new vertical member (50% moisture)
  - Sample 3C extracted from original vertical member (80% moisture).

### The south edge of the extension roof (Area C)

- Cut-out 4: through fibre-cement sheet cladding to the south edge of the extension roof, where ponding against the ridge flashing was observed and water testing confirmed that water drained under the flashing into the veranda soffit framing. The following was noted:
  - no evidence of building wrap
  - cladding fixed wrap directly to timber joists
  - lack of fall to the roof above
  - water stains to perimeter framing, with corrosion to soffit light fitting
  - Sample 4 extracted from roof framing.

### The jamb/sill junction to an original north window

- Cut-out 5: plaster and EIFS to a typical jamb/sill junction to an original window, where moisture levels were low. The following was observed:
  - the window face-fixed over the original fibre-cement sheet cladding
  - proprietary uPVC sill and jamb trims, with a corner soaker
  - no sign of any moisture penetration.

4.2.4 The expert forwarded six timber samples for analysis and the laboratory report dated 16 August 2018 noted the following:

- In regard to treatment detected in the samples:
  - Samples 1 and 2 were ‘either untreated perishable radiata pine, or may have been LOSP<sup>13</sup>-treated’, depending on age of building (Areas D and E)
  - Samples 3A, 3B and 3C were ‘almost certainly treated with a [CCA] equivalent to H3.2, (Area G)
  - Sample 4 contained boron, most likely equivalent to H1.2 (Area C).
- In regard to timber condition:
  - Samples 1 and 2: from the original boundary joists contained ‘fungal growths, typically highly prolific and including recently active fungi, but no structurally significant decay was detected’

<sup>12</sup> Readings over 40% indicate that the timber is saturated.

<sup>13</sup> Light Organic Solvent Preservative

- Samples 3A and 3C from the front deck balustrade new and original framing contained pockets of soft rot that was not yet structurally significant with replacement depending on the extent of the damage:
  - Replacement, or further investigation to establish the limits of affected wood (if not already known), is typically recommended for framing in this condition.
  - ...the condition of [these samples] was consistent with exposure to at least 10 years of elevated moisture conducive to decay...
- Sample 3B from the balustrade new framing contained ‘fungal growths’, but no structurally significant decay
- Sample 4 from the extension roof framing prolific active fungal growths but no structurally significant decay.
- The condition of Samples 3A and 3C ‘was consistent with exposure to at least 10 years of elevated moisture conducive to decay (moisture levels typically above 30%) or a longer period of ‘more highly intermittent moisture elevation’
- Although timber preservative can prevent serious decay, this ‘preventative effect is likely to wear off well within the life of the building’, with moisture hazards often compounding suddenly and accelerating the rate of damage.

4.2.5 The report concluded that “the majority of the samples examined had been exposed to moisture conditions that are inconsistent with sound building practice and/or weather-tight design, and that appropriate remediation is needed...”.

### 4.3 The reasons provided in the authority’s s95A notice

4.3.1 Item 1(a) – Over-cladding of the extension: the expert noted that:

- Pink fibre-cement backing sheets were installed before the EIFS.
- No cracking or signs of excessive movement were observed, there was no evidence of moisture ingress internally or within sub-floor.
- Window installation appeared satisfactory (based on Cut-out 5).
- Only elevated moisture relates to isolated roof defect (Area C).
- There was no evidence of moisture penetration as a result of the over-cladding, which appears to have performed satisfactorily for the past 18 years.

4.3.2 Item 2(a) – Location of smoke alarm: the expert noted that:

- Smoke detectors are situated adjacent to bedrooms and within the lounge.
- The detectors in the extension and in the lounge:
  - are installed on walls, within 150mm of the ceilings
  - are within ‘dead air zones’, contrary to recommended locations.

4.3.3 Item 3(a) – Over-cladding of the original house: the expert noted that:

- Original house clad in direct-fixed fibre-cement sheet, which is still visible below deck ranchsliders and deck ribbon plate (above concrete block walls).
- All other areas of the original cladding over-clad with 60mm thick EIFS as installed to the extension.

- Windows were left in place during over-cladding and appear satisfactory (based on Cut-out 5), with flashings and soakers installed in accordance with the cladding manufacturer's instructions.
- Elevated moisture levels to garage boundary joists coincided with deck door openings. In regard to the deck doors:
  - rubber seals were deteriorating
  - no EIFS over-cladding was installed to the original walls below
  - the doors had been left in place during over-cladding
  - the over-cladding 'has not compromised the performance of the original construction in these locations'.
- In regard to the original aluminium window joinery:
  - there are 'missing and/or shrunken glazing rubbers etc'
  - water testing where rubbers were missing found that water penetrated between the original fibre-cement and the EIFS over-cladding.
- No cracking or signs of excessive movement to the EIFS were observed
- There was no evidence of moisture penetration as a result of the over-cladding, which appears to have performed satisfactorily for the past 18 years.

#### 4.3.4 Item 4(a) – Roof: the expert noted that:

- The entire roof has been recently repainted, with no evidence of corrosion.
- At the apex flashing water testing confirmed that water can flow under the apex flashing during heavy northerly rain (Area C), where:
  - moisture levels were elevated
  - fungal growth was identified in Sample 4, but no established decay
  - removal of veranda downlights did not reveal visible moisture ingress
  - no indication of moisture in adjacent areas indicates defect is isolated
  - cause of moisture ingress may be the:
 

...result of poorly stop-ended roof sheet and/or gradual deterioration of the roof cladding behind the apex flashing as the roof (as not subject to regular rain-washing and/or maintenance), exacerbated by the lack of fall to the roof.

#### 4.3.5 In regard to documentation required by the authority, the expert noted that:

- The bathroom area in the extension contains a shower cubicle (Area F):
  - consent drawings do not show waterproofing details or specify any particular waterproofing membrane system
  - tiles are installed to the floor and to the external wall
  - glazed panels and shower door are installed above a tiled upstand
  - a visual inspection of the sub-floor directly below the bathroom revealed no evidence of moisture penetration through the tiles, with 17% moisture levels recorded in floor joists
  - tiling appears to have performed satisfactorily for the past 18 years.
- Plumbing and electrical services were visually inspected to assess the general condition and detailing, with no evidence of failures or problems observed.

#### 4.4 The front deck balustrade

4.4.1 In regard to the clad balustrade to the original front deck, the expert noted (Area B):

- The original balustrade was timber, with diagonal members between uprights that resulted in very large openings to the barrier.
- The balustrade is now framed and clad with the same EIFS as applied to the house and includes glazing inserted at the northeast corner (Area G).
- The balustrade is 900mm high, reducing to 760mm in the central eastern (front) section of the balustrade. (I note that photos of the original balustrade show it with a uniform height which suggests the height of the central section was reduced as part of the alteration work.) Filling in the large openings to the original barrier has improved the safety.
- The flat top has no detectable waterproofing, with cracks noted in the plastered EIFS, particularly above and below the northeast glazing.
- The base of the balustrade framing was just visible from the underside of the deck, where visibly wet framing was observed in a number of locations.
- Analysis of Samples 3A and 3C from the northeast corner confirmed pockets of soft rot that ‘may be localised and not yet structurally significant, likely due to the identification of copper treatment (indicating H3.2 CCA treatment to the timber).’

4.4.2 In regard to the condition of the front balustrade, the expert included the following comments (in summary):

- Although the cladding allows moisture ingress that has lead to ‘early fungal decay of the framing’, CCA treatment is likely to limit established decay.
- CCA treatment is ‘assessed by NZS 3602<sup>14</sup> as being able to achieve a 50-year durability’ when subjected to regular wetting. However, in contrast with exposed timber, the EIFS cladding limits the ability for framing to dry out.
- Continuing moisture penetration ‘could therefore lead to accelerated deterioration/decay of the structural framing, potentially within the 50-year minimum durability period required’
- Further moisture ingress behind the EIFS clad balustrades should therefore be prevented to ensure the integrity and durability of the underlying framing.

#### 4.5 Summary

4.5.1 The expert noted that the outcome of his investigation was (in summary):

- the roof has performed adequately for more than 15 years since substantial completion, but now requires repair due to localised moisture penetration
- there is no ‘current or past evidence of undue dampness attributed with EIFS over-cladding to the extension and/or original dwelling’, which has performed adequately for more than 15 years since substantial completion
- weathertightness defects and/or moisture ingress were observed in the original house; and repairs and maintenance are recommended

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<sup>14</sup> New Zealand Standard NZS 3602: Part 1: 2003 Timber and wood-based products for use in building

- although the front deck balustrade height is below current requirements, the cladding has improved safety by eliminating the original large openings
- the balustrade cladding has allowed moisture penetration into the balustrade framing, which has not yet resulted in significant established decay
- although the balustrade cladding is likely to have met 15-year durability since substantial completion, ongoing moisture ingress risks the framing not meeting its 50-year durability – so repairs are recommended to reduce moisture levels
- no internal evidence of non-performance was observed in regard to shower waterproofing, plumbing services and electrical services – all of which have performed adequately for more than 15 years since substantial completion.

## **5. Compliance of the alterations**

### **5.1 General**

- 5.1.1 I note that the building consent considered in this determination 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 only if it ‘is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted’.
- 5.1.2 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 2001. Although that matter is not part of this determination (see paragraph 1.5), I have taken an anticipated modification into account when considering the weathertightness performance of the claddings as most areas of claddings have continued to perform for approximately 18 years.
- 5.1.3 The matter in dispute is whether the authority correctly exercised its power in its decision to refuse to issue the code compliance certificate for the alterations. In deciding this matter, I have therefore considered whether the areas of building work identified by the authority comply with the relevant clauses of the Building Code that applied at the time the building consent was granted.
- 5.1.4 I note that the authority inspected the work during its construction followed by three final inspections; the inspections do not record any cladding defects. I also note that the expert did not notice any other significant defects during his assessment of the house and I have restricted my conclusions to those items identified by the authority in its section 95A letter (see paragraph 2.9).

### **5.2 The over-cladding to external walls**

- 5.2.1 There will often be minor variations from the consent documents and the authority should always be informed of these so that a proper process for dealing with these can be established. When changes are minor and the work complies with the Building Code an authority may choose to record these by way of appropriately detailed as-built drawings.
- 5.2.2 In the case of the over-cladding applied to the extension and the original house, I consider that these variations were such that they warranted an amendment of the building consent under section 33(4) of the former Act. However, I acknowledge

that at the time the work was done the generally-accepted application of the former Act meant less emphasis was placed on the amendment process than now exists under the current Act.

- 5.2.3 I also note that the authority carried out an ‘exterior pre-plaster’ inspection on 15 November 2000, which noted that the polystyrene backing sheets were fixed, flashings to openings were in place and passed the installation as ‘OK to plaster’. Those comments indicate the authority’s awareness and acceptance of the over-cladding at the time.
- 5.2.4 The authority’s first final inspection on 19 February 2007 also includes notes on the type of cladding used and on fibre-cement sheet underlying the EIFS. The letter to the applicant dated 21 February does not comment about the lack of approval for the over-cladding at the time of installation; but includes the need for a consent amendment application as part of the ‘paperwork required’ to finalise the consent.
- 5.2.5 I leave the regularisation of the over-cladding work to the parties. However, I note the following:
- The additional over-cladding work was completed under the former Act which did not require the same formal building consent amendment process that is described under the current Act.
  - The over-cladding is an extension of the original work and is of a type generally consistent with the consented work.
  - The over-cladding work was carried out at the same time as the consented work, and it was inspected and passed during its construction along with the construction and inspection of the consented work.

### 5.3 The relevant clause requirements

- 5.3.1 Taking account of the expert’s report and the other evidence, Table 1 summarises my conclusions on items identified by the authority.

**Table 1: The authority’s section 95A refusal**

Section 95A notice dated 9 February 2018 (in summary)		Fig.2 Area	Comments	Para-graph	Compliance
1a)	Extension over clad	A	<ul style="list-style-type: none"> <li>• No evidence of current or past moisture penetration.</li> <li>• Wall cladding has performed for more than 15 years.</li> </ul>	4.3.1	Compliant
2a)	Smoke alarm location		<ul style="list-style-type: none"> <li>• Smoke detectors not required by the Building Code at the time of the consent was issued.</li> <li>• Several detectors located within dead air zones – contrary to current requirements.</li> </ul>	4.3.2	Cannot be enforced as a requirement of the consented work.



- existing buildings were not required to be upgraded (section 8 of the former Act)
  - after alteration, a building was required to continue to comply with the Building Code to at least the same extent as before (section 38 of the former Act).
- 5.4.3 The work carried out in 2000 was an alteration to an existing building and therefore subject to the relevant provisions of the former Act in force at that time. The relevant provisions of section 38 of the former Act said that after the alteration a building was “to continue comply with the other provisions of the Building Code to at least the same extent as before the alteration.”
- 5.4.4 In respect of the framing:
- the existing barrier framing was fully exposed to the weather but was able to dry after becoming wet
  - the altered framing (and fixings) to the altered barrier is now fully enclosed and will not be able to readily dry from the moisture ingress currently observed entering through the cladding. In this respect the clad balustrade fails to satisfy the requirements of section 38 of the former Act.
- 5.4.5 In respect of the barrier:
- the original barrier was 900mm, being less than the 1.0m described in Acceptable Solution F4/AS1<sup>15</sup>, but the barrier was built before the Act and Building Code came into effect
  - the barrier’s compliance rests on its height and ability to restrict the passage of children under 6 year of age
  - the solid cladding had improved the barrier compliance in some respects, but the part of the barrier that has been reduced in height is new work that was required to comply fully with the requirements of the Building Code that were in force at the time the consent was issued.
- 5.4.6 The barrier cladding is now past the 15-year durability period required under Clause B2.3.1 assuming the durability periods in Clause B2.3.1 are modified and this is considered part of the consented work and not to be dealt with under a certificate of acceptance. However, the laboratory report (refer paragraph 4.2.4) noted that the condition of the timber samples taken from the balustrade framing was consistent with at least 10 years of elevated moisture indicating a failure of Clause E2 within the required 15-year durability period.
- 5.4.7 The new framing installed in 2000 is also required to meet Clause B1 Structure for a minimum period of 50 years (given the same assumptions noted in paragraph 5.4.6) and periods of prolonged undue dampness to the enclosed framing means the framing will not meet Clause B2 in respect of Clause B1.
- 5.4.8 Taking the expert’s report and other evidence into account, I conclude that the altered balustrades to the original deck require further investigation to confirm the structural condition of underlying timber. Such investigation should be followed by appropriate remedial work to prevent further moisture penetration and timber decay.
- 5.4.9 The altered barrier to the deck does not comply with Clause B2 Durability. In addition the altered barrier does not comply with Clause F4 Safety from falling but

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<sup>15</sup> Being the version of the Acceptable Solution F4/AS1 that was in force at the time the consent was issued.

only with respect to the part of the balustrade that has been reduced in height. Pending further investigation of the underlying framing, the barrier may also not comply with Clause B1 Structure.

## 5.5 Other items

- 5.5.1 The expert has noted the non-compliance of the smoke alarms fixed on walls close to the ceiling. Although I acknowledge that smoke alarms were not a requirement of the Building Code that was in effect in 2000 when the extension was constructed<sup>16</sup>, I strongly suggest the applicants to provide these in accordance with current requirements.
- 5.5.2 I accept the expert's opinions in regard to the bathroom tiling, the plumbing services and the electrical services. The lack of apparent problems after more than 17 years provide reasonable grounds to allow me to conclude that these areas comply with the relevant provisions of the Building Code, notwithstanding the lack of documentation.
- 5.5.3 The section 95A notice seeks an energy works certificate and three producer statements in respect of work that was completed 18 years ago – two of the statements sought are in respect of work for which the durability periods would otherwise have expired. There would appear to be little or no value in providing in providing the energy works certificate and producer statements at this time to establish compliance. While failure to provide an outstanding energy works certificate is 'sufficient reason'<sup>17</sup> to refuse to issue a code compliance certificate, the absence of one does not prevent a code compliance certificate from being issued.
- 5.5.4 I also note the expert's recommendations for various repairs and maintenance to the original house considered to be prudent in the circumstances, in particular to the window gaskets and the repair to the roof apex flashing. While I accept that these areas do not affect my conclusions on the minimum compliance requirements for the subject alterations, I suggest the owners to consider their implementation as part of repair work or otherwise as on-going maintenance of the house. The reduction of future risks will improve longer-term durability and assist the claddings in protecting the underlying structure.
- 5.5.5 Effective maintenance is important to ensure ongoing compliance with Clauses B2, E2 and E3 of the Building Code and is the responsibility of the building owner. The Ministry has previously described these maintenance requirements (for example, in Determination 2007/60).

## 6. What is to be done now?

- 6.1 The authority may deal with this matter via a notice issued under section 95A of the Act or a notice to fix. Either notice should include the investigations and defects identified in this determination and refer to any further defects that might be discovered in the course of investigation and rectification, but not specify how those defects are to be fixed – that is a matter for the applicants to propose and for the authority to accept or reject.
- 6.2 The applicant should develop and submit a detailed proposal to the authority to address the matters of investigation and non-compliance, produced in conjunction

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<sup>16</sup> The provision of domestic smoke detectors in the Acceptable Solution for Building Code Clause F7 "Warning Systems", F7/AS1, did not come into effect until April 2003.

<sup>17</sup> Section 94(3) of the current Act

with a suitably qualified person experienced in weathertightness remediation and submitted to the authority for its consideration and approval.

6.3 I leave the regularisation of the over-cladding to the parties to resolve as noted earlier in this determination.

## **7. The decision**

7.1 In accordance with section 188 of the Building Act 2004, I hereby determine that in regard to the Building Code that was in force at the time the original building consent was issued in 2000:

- the framing installed to the balustrade as part of the 2000 alterations does not comply with Clause B2 Durability with respect to Clause E2 External moisture and Clause B1 Structure
- the addition of cladding to the existing balustrade has had a negative impact on the compliance of the existing framing and therefore that work does not satisfy section 38 of the former Act
- the clad balustrade does not comply with Clause F4 Safety from falling, but only with respect to that part of the barrier where it has been reduced in height as part of the 2000 alteration work,

and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate in respect of the clad balustrade only.

7.2 I also determine that the remaining items identified in the Section 95A notice comply with the relevant clauses of the Building Code that were in force at the time the original building consent was issued in 2000.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 15 March 2019.

Katie Gordon  
**Manager Determinations**