



## Determination 2017/034

# The refusal to issue a code compliance certificate for a townhouse in a 24-year-old building with monolithic cladding at 6/22 Killarney Street, Takapuna, Auckland



### Summary

This determination concerns the compliance of a 24-year-old townhouse. The determination considers the authority's reasons for refusing to issue the code compliance certificate and whether the townhouse complies with the requirements of 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 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 owners of the townhouse, P and C Fitzsimmons ("the applicants") acting via an agent ("the consultant")
  - 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 a 24-year-old townhouse ("Unit 6"). The refusal arose because the authority is not satisfied that building work complies with certain

<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> After the original townhouse building was completed, North Shore City Council was transitioned into Auckland Council. The term "authority" is used for both.

clauses<sup>3</sup> of the Building Code (First Schedule, Building Regulations 1992). The authority's concerns relate primarily to the weathertightness and durability of the external building envelope.

- 1.4 The matter to be determined<sup>4</sup> is whether the authority correctly exercised its power of decision by refusing to issue a code compliance certificate for the reasons given in its letter dated 22 September 2016 (see paragraph 3.5). In deciding this matter, I must consider whether the external building envelope of Unit 6 complies with Clause B2 Durability and Clause E2 External moisture of the Building Code<sup>5</sup>. The building envelope includes the components of the systems (such as the wall claddings, the windows and the deck) as well as the way components have been installed and work together. This matter includes compliance with Clause B1 Structure, insofar as it applies to the weathertightness of the unit.

## 1.5 Matters outside this determination

- 1.5.1 The authority has also identified a lack of compliance with Clause F4 Safety from Falling, in regard to handrails, balustrades and windows. However these items are not in dispute as the consultant that the applicants have agreed to attend to the identified items. This determination is therefore limited to the matter outlined in paragraph 1.4 and I leave any remaining issues to the parties to resolve in due course.
- 1.5.2 I note that the authority has also identified a list of outstanding documentation that is not relevant to my conclusions on the matters to be determined. Taking into account the age of the building work and the nature of repairs carried out over the past five years, I leave the resolution of documentation to the parties to resolve.
- 1.5.3 However, the authority has requested a site specific maintenance plan as a condition of issuing the code compliance certificate. I note that regular ongoing maintenance is expected to be carried out by the owners of a building. I consider that providing a site specific maintenance plan is not a requirement under the Building Act, and cannot be required by the authority as a condition of issuing the code compliance certificate.
- 1.5.4 I also note that the owners will be able to apply to the authority for a modification of durability provisions to allow the durability periods specified in Clause B2.3.1 to commence from substantial completion of Unit 6 in June 1993. Although I leave this matter to the parties to resolve in due course, I have taken the anticipated modification into account when considering the wall cladding durability.
- 1.5.5 In 2016, the authority issued a separate building consent for Unit 6 to allow the applicants 'to obtain a code compliance certificate separately' from the other units in the 6-unit building ("the townhouse building"). Although this determination is limited to the code compliance of Unit 6, I take into account the background of other units within the development; with the relevant consents shown in Table 1:

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<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.

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

<sup>5</sup> That applied at the time the original building consent was issued in 1993 for the 6-unit building

**Table 1**

<b>Building Consents</b>	<b>Issued</b>	<b>References in drawings</b>	<b>References in property records</b>	<b>Postal addresses (Killarney Street)</b>	
T2042	27 Oct 1992	Unit 1 to Unit 6	Unit A to Unit F	1/22 to 6/22	
T2043	21 Oct 1992	Unit 7 to Unit 12	Unit G to Unit L	7/22 to 12/22	code compliance certificate issued 3 Mar 1997
BC 1257872	Aug 2016	Unit 6 (separated)	Unit F	6/22	code compliance certificate refused

## 1.6 The evidence

1.6.1 In making my decision, I have considered:

- the submissions of the parties
- the reports of the expert commissioned by the Ministry to advise on this dispute (“the expert”)
- the report of the consultant commissioned by the building owners to assess the building
- the other evidence in this matter.

## 2. The building work

### 2.1 The development

2.1.1 The development in 1993 comprised a detached building accommodating six attached townhouses in the townhouse building, together with six detached houses (“the houses”), situated on two sections of a south-sloping site in a high wind zone in terms of NZS 3604<sup>6</sup>. A shared driveway provides access to all of the units.

2.1.2 A subdivision of the original property (Deposited Plan 153565) into two lots with twelve individual unit titles was registered on 23 March 1993 as follows:

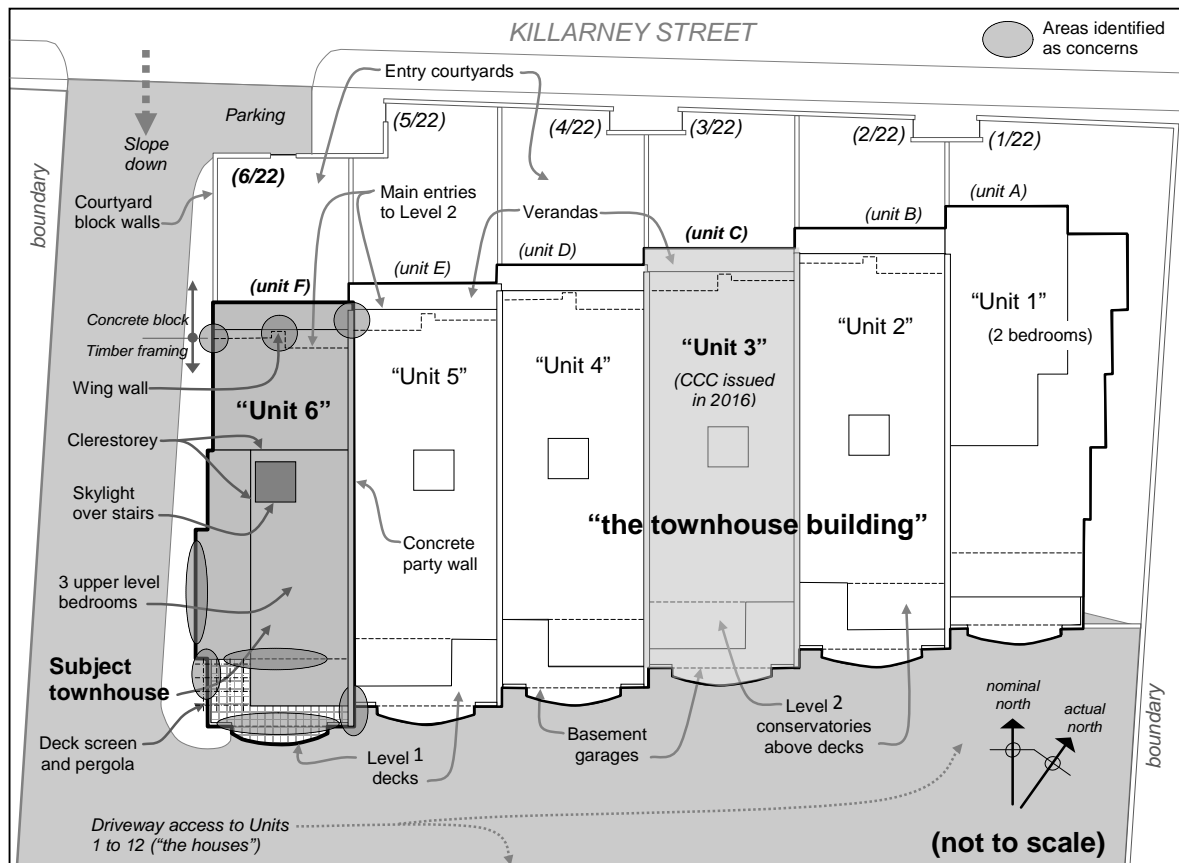
- Lot 1: Unit A to Unit F (UP 155803)      Unit 1 to Unit 6 (“the townhouses”)
- Lot 2: Unit G to Unit L (UP 155804)      Unit 7 to Unit 12 (“the houses”).

### 2.2 The townhouse building

2.2.1 Each townhouse is two-storeys high on the street side and three-storeys high to the rear, with a part basement set within the slope of the site and a shared driveway that slopes down from the street by about one storey. The expert and the consultant have both taken the street face of the building as facing north, and this determination follows that convention.

2.2.2 Unit 1, at the eastern end has two bedrooms with a partial upper level, while Units 2 to 6 have three bedrooms with a full upper level as shown in Figure 1.

<sup>6</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings



**Figure 1: Approximate site plan**

## 2.3 Units 2 to 6

2.3.1 Units 2 to 6 are similar in plan and form and accommodate the following:

- Basement: double garage, store and stairs
- Level 1: living dining and kitchen areas, with street level entries to the north and living areas opening onto decks to the south
- Level 2: two bedrooms to the north and master bedrooms to the south, with 'conservatories' extended out over the deck below.

2.3.2 Basements are specifically engineered, with concrete slabs foundations, and concrete block walls and retaining walls. Reinforced concrete beams above garages support precast concrete floor slabs to Level 1. The concrete floors extend under the north exterior walls; supported by concrete block foundation walls that retain earth fill for the north entry courtyards. The three-storey high party walls between adjacent units are reinforced concrete block, with specifically engineered steel elements within the structures.

2.3.3 The remaining construction is generally conventional light timber frame with some specifically engineered steel elements, and includes multi-level timber framed floors, monolithic wall cladding, timber windows and membrane roofing. The 8° monopitched multi-level roofs have projections of approximately 100mm to 400mm, except at the entry verandas. Roofs to the north Level 2 bedrooms include oblique rafters.

## **2.4 Unit 6 (the subject townhouse)**

- 2.4.1 Unit 6 is at the west end of the townhouse building as shown in Figure 1, with construction as described above except for the west elevation – where external walls are timber-framed above the basement blockwork. The concrete block party wall to the east extends to the south to form a barrier between adjacent decks. The Level 2 conservatory extends over the deck from the party wall, supported by a reinforced concrete beam at the south west corner.
- 2.4.2 The original membrane roofing was a proprietary torch-on membrane system with a copper coating that subsequently developed problems and was apparently removed (see paragraph 3.2.5) in 1997. About three to four years ago, the original roof to Unit 6 was overlaid with plywood substrate and a new membrane system. The new membrane is a single ply reinforced thermoplastic polyolefin (TPO) sheet suitable for low pitched roofs.
- 2.4.3 The south deck is situated mainly above the garage space, except for a curve-fronted cantilevered projection with glass and metal balustrades that have posts side-fixed into the deck edge. The concrete block garage walls extend up to form the remaining balustrades. The concrete deck floor is stepped down; with tiled screed raised to form a level threshold at the door and laid to fall to outside the edges of the cantilever.
- 2.4.4 The cladding is a monolithic cladding system described as solid plaster over a flexible backing (“stucco”). The specification calls for the 3-coat plaster system to be applied over ‘a non-rigid backing of heavy duty waterproof breather type building paper’ and is to ‘be fixed on battens’, which are fixed through the building wrap into framing timbers. The stucco is reinforced with galvanised metal netting and is finished with a flexible paint coating system. Concrete block exterior walls are plastered to match the stucco-clad timber framed walls.
- 2.4.5 The specification calls for wall framing to comply with NZS 3602, which at the time of timber purchase in late 1992 required boron-treated timber for a primary risk of insect attack<sup>7</sup>. However, the consultant noted that based on his experience with buildings from that time, the framing was likely to be treated to resist decay. Taking account of the date of construction and the other evidence, I consider the external wall framing is treated to a level that will provide some resistance to fungal decay.

## **3. Background**

### **3.1 The original construction**

- 3.1.1 The authority issued building consents to the developer for the townhouse building (No. T2042) on 27 October 1992 and the houses (No. T2043) on 21 October 1992, under the Building Act 1991.
- 3.1.2 Construction proceeded concurrently, with some inspections of the townhouse building consent recorded under the consent T2043 for the houses (Units G to L in the inspection records). The ‘field inspection sheet’ for T2042 notes ‘foundation inspections/blockwork all recorded on T2043’. Although not clear, the combined summaries for T2042 and T2043 show the following for the townhouse building:
- inspections of excavations and footings in October 1992
  - inspections of steel, bond beams, floor slabs and concrete blockwork during November 1992, with the engineer’s attendance noted.

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<sup>7</sup> Where full sapwood penetration was not required and boron level was subsequently lowered

3.1.3 Framing to the townhouse building progressed from the west townhouse (Unit 6) towards the east (Unit 1), with pre-line inspections progressively completed from January to April 1993 as units were ready – and inspections of Unit 6 were recorded on 28 January and 17 February 1993. Final inspections were carried out on 21 June 1993, with the summary noting ‘Unit 6 – no final – already occupied’.

3.1.4 The townhouses were progressively sold and occupied, with the original owners purchasing units on the understanding that the developer would apply for a final certificate when all outstanding work was completed and inspected. The units were sold as follows<sup>8</sup>:

- Unit 1: January 1993 (sold again in 1996, 1998, 2007 and 2015)
- Unit 6: April 1993 (sold again in 1995, 1996 and 1997)
- Unit 2: July 1993 (sold again in 1996 and 2003)
- Unit 4: September 1993 (sold again in 1994)
- Unit 3: November 1993 (sold again in 1995, 2009 and 2016)
- Unit 5: January 1994 (still with original owner).

## 3.2 Subsequent problems and repairs

3.2.1 Cladding problems apparently arose and some units were subsequently assessed by a ‘BRANZ Accredited Advisor’ who provided a report dated 6 April 1995, which I have not seen. It appears that some of the unit owners then approached the authority with their concerns about a number of items.

3.2.2 In a letter to the developer dated 12 September 1995, the authority noted that no code compliance certificates had been issued for the development and it had ‘come to our notice that a number of defects have been apparent in the buildings’. Although it considered that some problems related to workmanship, the authority stated that the following items appeared to be failures to meet the Building Code:

1. Roofing materials lifting and curling leading to moisture leakage and damage. It is noted that this material appears to differ from that advised to us and approved for use.
2. Large scale cracking and failure of exterior plaster sheathing, allowing moisture penetration and damage.
3. Damage from dampness at floor level, probably due to high exterior ground levels and poor execution of the plaster sheathing.
4. Inadequate ventilation, particularly where insufficient opening windows have been installed.

3.2.3 By the end of 1996 only one of the six townhouses remained with its initial owner, so some unit owners may have arranged for repairs to be carried out. I have seen no information relating to the extent of repairs to the townhouse building as a whole, although it seems that some roof and stucco repair was carried out in 1997 after negotiations with the developer.

3.2.4 In regard to Units 7 to 12 (No. T2043), the sequence of events suggests that the developer and/or the owners had carried out repairs because, on 3 March 1997, the authority issued ‘a final code compliance [certificate] in respect of all of the building work under’ the building consent for ‘6 new dwelling units (G to L)’.

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<sup>8</sup> Based on Quotable Value NZ records

3.2.5 In a letter to the authority dated 25 June 1998 an engineer noted his engagement to assist the owners of Unit 1 and Unit 8<sup>9</sup> with obtaining code compliance certificates and requested inspections for those particular units only. The engineer referred to problems identified in the accredited advisor's report; noting that repairs had been undertaken in 1997. The 'maintenance and remedial work carried out' for the two units was listed as follows (in summary):

- removal and repair of substandard stucco
- upgrading of flashings at plaster/joinery junctions
- upgrading of party wall junctions and wall/ground junctions
- removal of failing copper coating to roof membrane, with additional torch-on membrane layer added<sup>10</sup>
- joinery repainted and stucco paint 'upgraded' to provide 'waterproof coating'.

(I have seen no records of any inspections of any unit in the townhouse building, although I note that Unit 1 was resold in December 1998.)

### 3.3 The code compliance certificate for Unit 3

3.3.1 I have seen no relevant correspondence regarding final inspections until January 2016, after the owners of Unit 3<sup>11</sup> had applied for a code compliance certificate in 2015. It appears that the authority issued a separate consent for Unit 3<sup>12</sup> and carried out a final inspection on 25 January 2016. In a letter dated 26 January 2016, the authority refused to issue a code compliance certificate for Unit 3 due to concerns about:

- Roof claddings and junctions:
  - upper level membrane roofing
  - apron flashing to north veranda roof
  - rafter/barge flashing
- Joinery:
  - window/cladding junctions to curved head window
  - thresholds to north glazed doors, Level 1 deck doors and garage
- Safety from Falling:
  - non-compliant deck balustrades
  - non-compliant stair balustrades
  - lack of handrail to basement stairs
  - upper floor window sills
- lack of seismic restraint to hot water cylinder
- lack of safety glass to wet areas.

3.3.2 Although I have seen no further records for Unit 3, it appears that the consultant was engaged to address the above items (see paragraph 3.6.1) and, after repairs inspected by the authority, a code compliance certificate was issued for Unit 3 (see paragraph

<sup>9</sup> Unclear whether correct unit number is referred to, because Unit 8 already had a code compliance certificate at that time.

<sup>10</sup> It appears that repairs were carried out to all units in the development

<sup>11</sup> Unit C – addressed at 22C Killarney Street

<sup>12</sup> Unit C is not listed in the separated consent for Unit 6 – see paragraph 3.4

3.7.3). I have not seen a copy of that code compliance certificate. I note that Unit 3 had been sold to its current owners on 15 January 2016.

### **3.4 The final inspection of Unit 6**

3.4.1 The applicants subsequently applied for a code compliance certificate for Unit 6 and in August 2016 the authority issued a new building consent (No. BC-1257872) for:

Consent created to enable Unit F [Unit 6] to obtain a code compliance certificate separately from UNITS A, B, D, E on consent T2042 and amendment BP 1255941/A<sup>13</sup>

3.4.2 The authority carried out a final inspection on 20 September 2016. The authority's 'Durability final inspection checklist' identified the following items:

1. Inter cladding junctions
2. Thresholds not achieved
3. Lean to porch roof apron flashing to wall junctions – repairs?
4. Downward sloping outrigger rafters / junctions
5. Downpipe supports
6. Window sills – > 760 high barriers - restrictors
7. Cracks to cladding
8. Cracks to gib ceiling
9. Window to cladding junctions.

3.4.3 The record also noted 'new membrane roof' which was not inspected as it was 'too high'. The record concluded that the work 'may be in breach of' Clauses B1, B2, E2 and F4 and noted 'fail – subject to peer review and documentation'.

### **3.5 The refusal to issue a code compliance certificate for Unit 6**

3.5.1 The authority wrote to the applicants on 22 September 2016 to advise that 'under Section 95A of the Building Act 2004 your application for a [code compliance certificate] has been refused' because it could not 'be satisfied on reasonable grounds that the completed building works would comply with the consented plans / building code.'

3.5.2 The authority noted 'various concerns regarding B1 Structure, B2 Durability, E2 External Moisture and F4 Safety from Falling' and listed 'some of the items identified (but not limited to)' as follows (in summary):

- 1) Internal and external barriers not compliant
- 2) Deck screen/cladding junction
- 3) Inter-cladding junctions
- 4) Ground clearances
- 5) Window sill junctions
- 6) Fascias embedded in plaster
- 7) Lack of window restrictors
- 8) New membrane roof and skylight junctions
- 9) Cracked plasterboard linings
- 10) Apparent repairs to wall/roof junction at entry porch
- 11) Wall/oblique rafter junctions
- 12) North sliding window unflashed

<sup>13</sup> I have seen no record of what 'amendment BP 1255941/A' refers to (although it may relate to the splitting off of Unit 3)



- 13) Decayed window sills and sashes
- 14) Moisture wicking into plaster where no ground clearances at party and entry wing wall
- 15) Stucco swelling at concrete wall/timber junction at NE corner
- 16) Fixings to downpipes
- 17) Moisture penetrating where no ground clearances at garage door
- 18) No handrail to basement stairs.

3.5.3 The authority also noted the new roof ‘membrane installed over existing membrane’ and listed documentation required, including:

- Engineers assessment as to external barrier connections
- Full Survey, Scope of work and Report from a **suitably qualified individual (Building Surveyor)** prior to any remediation
- Site specific maintenance plan which covers roof, exterior cladding and gutters – To be signed by existing owners and passed on to new owners if property is sold.

### 3.6 The consultant’s report

3.6.1 In response to the above, the applicants engaged a building surveyor (“the consultant”) to address the reasons for the authority’s refusal to issue a code compliance certificate. I note that the consultant refers to his involvement with ‘Unit C’, and I take this to include investigation, reporting to the authority and advising on repairs required to Unit 3 (see paragraph 3.3.2).

3.6.2 The consultant inspected the townhouse and reported to the authority on 8 November 2016; describing the townhouse building’s construction and noting that:

We have carried out a visual and an invasive investigation via the internal linings to view the timber framing to check for any indications of potential failure.

Due to the age of the building, treated framing would have been used during construction. From our cut outs no sign of deterioration of the framing was evident neither was there any musty/damp odour indicated.

3.6.3 The consultant took moisture readings into timber framing exposed at cut outs, noting that ‘moisture readings taken from the framing are recorded within the report as uncorrected readings due to our meter being calibrated for untreated timber’ (my emphasis). These readings included:

- 24% uncorrected at NW bottom plate (corrected to 18%)
- 20% uncorrected at NW corner stud (corrected to 15%)
- 18% uncorrected below west dining window (corrected to 14%)
- 18% uncorrected at west bedroom 2 bottom plate (corrected to 14%)

3.6.4 The consultant inspected and commented on items identified by the authority as follows (in summary):

- Item 1 Barriers: can fit acrylic sheeting to close gaps.
- Item 2 Screen: in regard to Level 2 deck screen:
  - fixings are to the top of the block wall, with side fixings to cladding
  - timber at cut outs to SW corner ‘appeared sound and dry’.

- Item 3 Inter-cladding junctions: junctions appear to be performing to date and are considered satisfactory, given:
  - a plastered over horizontal copper flashing to west wall, with no evidence of associated moisture penetration
  - roof overhangs of about 1 metre that shelter vertical junctions, with no associated cracking to plaster.
- Item 4 Ground clearances:
  - the north entry has a plastered threshold of about 100mm and is sheltered by the entry veranda, with no sign of moisture reaching the junction
  - the south garage door jambs contact the ground, but the framing timber is not structural and there are good falls away from the junctions – so is satisfactory in the circumstances, given maintenance
  - a 75mm step down to the concrete floor slab was screeded to provide a level tiled threshold to the deck doors, most of which is sheltered under the conservatory and there is no sign of associated moisture.
- Item 5 Joinery junctions:
  - copper sill flashings are ‘well sealed at each end’
  - the west windows have plastered ‘eyebrows’ to shelter junctions, with no evidence of failure
  - the weatherseals to sash/frames of north bedroom sliding windows have shrunk back by about 50mm, allowing moisture to penetrate, run down the jack stud and damage the flooring
  - invasive investigations of wall framing from the inside beside west and north windows show no evidence of timber deterioration.
- Item 6 Fascias embedded in plaster: this applied to the fascia above the south ensuite, with cut outs to linings revealing no evidence of moisture penetration.
- Item 7 Window restrictors: the applicants have agreed to fit these.
- Item 8 Skylight junctions:
  - the new membrane appears ‘well laid and to a good trade practice’
  - there has apparently been no change to the original skylight details
  - there is no evidence of moisture penetration.
- Item 9 Plasterboard cracks:
  - ceiling cracks commonly due to movement in skillion roof
  - cracking below windows also likely due to movement, apart from moisture contributing to the north sliding windows (Item 5).
- Item 10 Apparent repairs to entry porch wall/roof junction:
  - likely in response to authority’s 1995 letter (see paragraph 3.2.2)
  - engineer’s letter in 1997 indicated that areas identified by authority had been rectified (see paragraph 3.2.3)
  - there is no evidence of associated moisture penetration.
- Item 11 Oblique rafter/wall junctions:
  - junctions consented at the time, with copper end flashings fitted
  - same detail as for Unit 3, where no moisture was found

- Item 12 Sliding window: assumed to refer to the curved window head in bedroom 2. Despite lacking a head flashing, the window is deeply recessed beneath a beam and eaves, with no evidence of failure.
- Item 13 Timber window decay: there is visible water staining, but no apparent decay. The 24-year-old windows have exceeded the 15-year durability, so any work required may be undertaken as maintenance.
- Item 14 Wicking into plaster:
  - party walls are concrete block, with plastering cosmetic only
  - entry wing wall is well sheltered under veranda, with no evidence of moisture damage at junctions.
- Item 15 NE corner junction with courtyard wall:
  - there is no sign of damage to framing exposed via cut out to lining
  - courtyard block wall was constructed after wall cladding complete
  - separation of wall would damage plaster in area, so better to add copper saddle flashing to enhance performance.
- Item 16 Downpipe fixings: these can be fitted and sealed.
- Item 17 North garage wall clearances: considered satisfactory in the circumstances, but could install concrete nibs and capillary break as per Unit 3.
- Item 18 Handrail to basement stairs: the applicants have agreed to fit this.
- Item 19 Documentation:
  - membrane installer preparing documentation (roof photos attached)
  - remaining documentation to be provided in due course
  - balustrade connections are original and no different from Unit 3.

### **3.7 The second refusal to issue a code compliance certificate**

3.7.1 It appears that a site meeting was held on 7 December 2016 to discuss the situation and to inspect cut outs (I have seen no records or photographs from that meeting). In an email to the consultant dated 8 December 2016, the authority noted that after discussions and review of the photographs taken at the site meeting:

Council cannot on reasonable grounds sign off the plaster system on this property. Neither can we sign off on the structure.

3.7.2 The consultant responded the same day, attaching copies of the authority's 1995 letter (see paragraph 3.2.2) and the engineer's 1998 letter (see paragraph 3.2.5). The consultant also noted that a cavity had been specified under the stucco cladding (see paragraph 2.4.4) and he had viewed a 'DVD taken by a neighbour during the construction where you can see the battens on an adjacent property'.

3.7.3 In a further email the following day, the consultant expressed his concern about the authority's latest refusal; noting the requirements of S95A and stating his opinion that the email from the authority dated 8 December 2016:

...does not contain reasons for the refusal and therefore cannot be considered as a formal response to [Section 95A (b)] under the Building Act.

Furthermore, I note your comments re the structure and plaster and mention that earlier this year, you as the inspector on behalf of Auckland Council, signed off on unit 3, 22 Killarney St and whilst I acknowledge that this is a middle unit as against an end

unit, the detailing, structure and plaster are all the same. [In addition] my investigation [of Unit 6] provided 13 cut-outs whereas 3 were made on unit 3!

3.7.4 In an email to the consultant dated 9 December 2016, the authority acknowledged the receipt of additional information and included the following comments (in summary):

- 18 issues and outstanding documentation were identified (see paragraph 3.5.2)
- there is evidence of moisture penetration in some of the cut outs, but no proposal for repair of decay to framing, nor any evidence of past repairs
- the 1998 letter from an engineer notes repairs undertaken, presumably under his guidance – but there is no indication of his weathertightness qualifications<sup>14</sup>
- there is also no evidence of the authority’s involvement in these repairs, apart from ‘an assumption that they must have’ been involved.

3.7.5 The Ministry received the application for a determination from the consultant on 9 December 2016.

## 4. The submissions

4.1 The consultant made no submission and provided copies of:

- the original building consent, drawings and specification
- the authority’s inspection summaries
- the authority’s letter to the developer dated 12 September 1995
- the engineer’s letter dated 25 June 1998
- the invoice for the separate consent for Unit 6 dated 22 August 2016
- the durability final inspection checklist dated 20 September 2016
- the S95A refusal to issue a code compliance certificate dated 22 September 2016
- the consultant’s report dated 8 November 2016
- some email correspondence and other information.

4.2 The authority made no submission but forwarded a CD-Rom, entitled ‘Property File’, which contained some additional documents pertinent to this determination, including:

- the ‘Durability final inspection checklist’ dated 20 September 2016
- the building consent, inspection summary and code compliance certificate for the houses (T2043)
- various survey information, certificates and other information.

4.3 A draft determination was issued to the parties for comment on 1 May 2017.

4.4 On 15 May 2017 the authority accepted the draft determination with no additional comments.

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<sup>14</sup> I note that there were no qualified or experienced ‘weathertightness experts’ in 1998.

- 4.5 On the same day the consultant accepted the draft determination with a request to correct the date of the final inspection.
- 4.6 I have taken the parties' submissions into account, and altered the determination as appropriate.

## **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 Unit 6 on 9 February and 15 February 2017, providing a report completed on 21 March 2017. The parties were provided with a copy of the report on 23 March 2017.

### **5.2 General**

- 5.2.1 The expert noted that the scope of his inspection was to provide an opinion about items identified in the authority's section 95A refusal to issue a code compliance certificate 'related to weathertightness and other compliance issues' and to assess compliance of areas identified by the authority with the associated parts of Clauses B1, B2, E2 and F4.
- 5.2.2 The expert considered that the layout of the townhouse was generally as indicated on the drawings except for the following changes:
- timber infill walls added at sides of garage opening to reduce width to suit door
  - the Level 1 fireplace and chimney structure not constructed
  - Level 1 to Level 2 staircase reconfigured to provide stairwell with void
  - skylight added above stairwell void.
- 5.2.3 The expert made the following general comments, including (in summary):
- Construction quality appears generally high, with the stucco cladding of 'a high standard and well-maintained' joinery junctions and copper flashings to provide 'mechanical protection'. Copper flashings are also installed to exposed rafter ends and to parapets.
  - The custom-made timber window joinery appears of a 'high standard', but condensation has damaged the interior, accumulating over 24 years.
  - Except for the condensation damage, no apparent lack of maintenance was observed, with a new roof membrane system installed about 3 to 4 years ago (see paragraph 2.4.2).

### **5.3 The stucco plaster**

- 5.3.1 In regard to the stucco to the timber-framed walls, the expert made the following general comments, including (in summary):
- The external block walls are plastered and merge seamlessly with the stucco (see paragraph 2.4.4); with plaster aligned with blockwork plaster, leaving a 15 to 20mm gap from framing to form a non-drained cavity behind the plaster.
  - Although the cavity reduces water transfer towards timber framing, it will not provide comparable drainage capacity expected from a drained cavity installed

today. Cavity details could not be checked at the cut outs (although I note the solid plaster specification as outlined in paragraph 2.4.4).

- However, the stucco to timber-framed north wing walls and sides of the north garage door finishes below ground level and is exposed to water uptake.

#### **5.4 Deck screen fixing to cladding (Item 2)**

5.4.1 The expert noted that the timber deck screen is installed above the west balustrade. The expert considered the fixings satisfactory, given that:

- the screen is fixed to the top of the concrete block balustrade and is held in place by the timber pergola rafters above
- a piece of paper could be moved full height between the screen and the adjacent stucco, confirming that no fixings penetrated the cladding.

#### **5.5 Inter-cladding junctions (Item 3, 15)**

5.5.1 In regard to horizontal junctions between the stucco cladding and plastered blockwork to the west and north elevations, the expert noted that despite the lack of a formed control joint there was no visible damage or cracking at these junctions.

5.5.2 In regard to the vertical junction between the courtyard block wall and the stucco of the NE corner of the timber framed wall, the expert noted:

- cracking across the top of the plastered block/wall junction, which extended down both vertical sides of the wall
- dye testing of the crack showed water immediately taken into the crack
- two lining cut outs at the corner were reopened and inspected with:
  - no signs of penetration of the dye-coloured water
  - moisture readings in bottom plate and corner stud of 16%
  - minor staining to bottom plate and some discolouration of building wrap
  - at the lower cut out, the upstand of the copper sill flashing was visible
- The consultant's investigations had recorded moisture readings of 20% in the corner stud and 24% in the bottom plate at cut outs, suggesting a leak source. However, I note that the consultant recorded uncorrected readings for untreated pine (see paragraph 3.6.3) and when corrected for boron treatment, the above readings are expected to be 18% in bottom plate and 15% in corner stud.

#### **5.6 Cladding clearances (Items 4, 14 and 17)**

5.6.1 In regard to base details of the stucco cladding installed to timber framed walls at the north entry veranda, the expert noted that these were satisfactory, given that:

- there is a step down from the interior floor level to the exterior paving of about 60 to 70mm, with the foundation wall top plastered to a sloping sill profile
- although stucco contacts the paving at the north entry, the junction is protected by a 1.4m deep veranda, reducing to approximately 1.2m above the dining doors
- the stucco also contacts paving at the framed wing wall to the east of the dining doors, but that junction is sheltered by about 1m overhang

- the dining doors have a metal sill flashing embedded into the plastered jamb reveals, with a small plaster crack at the corner that requires attention.

5.6.2 In regard to base details at the small framed jambs to the north garage door, the expert noted that although the driveway paving slopes away from the wall/ground junction, there is no shelter from northerly rain. The expert noted:

- plaster extends to paving level over framing (I note that no cavity is provided in contrast with the west wall)
- the unsealed fibre-cement sheet interior lining was removed, revealing the bottom plate below ground level and very high moisture levels of 36%.

5.6.3 In regard to base details at the Level 1 deck, the expert noted (in summary):

- the stucco extends to the tile surface, although more than half of the wall/deck floor junction is sheltered beneath the overhanging Level 2 conservatory
- the precast floor slab has a step down of about 75mm, which is almost taken up with the screed and substrate for the deck tiles
- water stains and corrosion to carpet edge fixings at the exposed SW corner indicated moisture problems so the existing lining cut out was expanded, with timber damage and corroded fixings visible and a moisture level of 25%.

## 5.7 Joinery junctions (Items 5, 12)

5.7.1 The expert inspected visible installation details of timber window joinery, noting:

- the windows are recessed, with copper sill flashings and ‘well maintained’ junctions to the plaster – preventing water penetration
- despite no visible head flashing to the north bedroom upper windows, window heads are recessed and sheltered beneath roof overhangs, with well-maintained junctions preventing any significant penetration.

5.7.2 In regard to the sliding window to bedroom 2:

- the window is a timber frame that extends to include the panes when open, with side panels infilled with fibre cement and metal rails fitted top and bottom to allow the sashes to slide
- there is no mechanical flashing to the infill panel and the fibre-cement/metal rail junction is dependent on sealant at the joint, with dye-testing showing:
  - water penetrating reaching the window frame, where it is directed to the outside by the copper sill flashing
  - water reaching the flashing upstand, where it can move via capillary action and wick into the timber framing at the jamb/sill junction
  - damage to carpet and flooring is visible below the infill panels
  - a new cut out below the jamb/sill junction (in addition to the existing cut out made by the consultant) revealed mould to the back of the lining and elevated moisture levels.

## 5.8 Membrane roof and skylight flashings (Item 8)

5.8.1 The roof and skylight area could not be accessed, but the expert assessed ceiling linings from beneath, noting the following:

- some cracking around the skylight at the opposite SW and NE corners and at a nearby joint, but no signs of water penetration
- given their location and lack of evidence, the cracking is likely to be a result of movement rather than of moisture problems
- a cracked lining joint to the ensuite ceiling, but no staining or softness that would indicate moisture penetration from the roof.

## **5.9 Oblique rafters/wall junctions (Item 11)**

5.9.1 In regard to the rafter/wall junctions, the expert noted that:

- these junctions are limited to the eave above the Level 2 bedrooms
- the rafters have copper end caps and extend beyond the eave by about 300mm, with the lower side tapered to fall at a steeper angle
- water can run downwards from top of cap towards the fascia and also along the bottom of the rafter towards the stucco
- the cladding/rafter junction is well sealed and maintained, with no evidence of moisture penetration and low moisture levels in adjacent framing.

## **5.10 The remaining items (Items 6, 9, 10, 13 and 16)**

5.10.1 The expert assessed the remaining items relating to weathertightness, noting:

- the fascia board under the gutter to the north wall of Level 2 ensuite is embedded into plaster, but there was no evidence of moisture penetration into the underlying stucco, with the consultant recording low moisture readings in associated framing (Item 6)
- cracks at plasterboard joints under some window jambs where sheets had not been installed with joints offset related to movement rather than moisture penetration (Item 9)
- repairs to the north end of the party wall appeared to be part of the recent re-roofing (Item 10)
- water staining to some timber window sashes and interior sill reveals requires attention, but appears to be result of long-term condensation, with no sign of 'water ingress paths from the exterior' (Item 13)
- maintenance is needed to some corroded clamps, with any additional required fixings able to be fixed without disturbing the wall stucco (Item 16).

## **5.11 Safety from falling (Item 1, Item 7 and Item 18)**

5.11.1 The expert confirmed that items relating to the stair and deck balustrades required attention, but noted that the applicants had agreed to rectify these items.

## **5.12 The authority's list of concerns**

5.12.1 The expert also assessed the list of concerns identified by the authority in its section 95A refusal to issue a code compliance certificate; and the following table summarises the expert's responses (also taking the consultant's comments into account).



**Table 2: The authority's concerns**

Areas of concern in S95A refusal (in summary)		Expert's comments <i>(with consultant's additional comments in italics)</i>	Compliance	Relevant paragraphs
1	Internal and external barriers	<ul style="list-style-type: none"> <li>Not in dispute</li> <li>Owners have agreed to remedy</li> </ul>	<b>Not considered</b>	1.5.1 3.6.4 5.11.1
2	Deck screen/cladding junction	<ul style="list-style-type: none"> <li>Fixed to top of concrete block balustrade</li> <li>Fixed to timber pergola</li> <li>No fixings through stucco cladding</li> <li>No associated moisture penetration</li> </ul>	Satisfactory in circumstances	3.6.4 5.4
3	Inter-cladding junctions (horizontal)	<ul style="list-style-type: none"> <li>West horizontal block/stucco junction</li> <li>Plastered over junction, but no cracks</li> <li>Underlying copper flashing</li> <li><i>No evidence of moisture penetration</i></li> <li><i>In service for some 24 years</i></li> </ul>	Satisfactory in circumstances	3.6.4 5.5.1
4 14 17	Cladding clearances	<b>North entry veranda</b> <ul style="list-style-type: none"> <li>Step down to paving of about 65mm</li> <li>Stucco/paving junction sheltered by veranda</li> <li>In service for some 24 years</li> <li>No evidence of moisture penetration</li> <li>Small plaster crack to dining door threshold</li> </ul>	Satisfactory in circumstances (repair to crack needed)	5.6.1 3.6.4
		<b>Garage door jamb framing</b> <ul style="list-style-type: none"> <li>Stucco contacts paving, with junctions exposed</li> <li>Bottom plate below ground level</li> <li>Very high moisture levels in bottom plate</li> </ul>	<b>Repairs required</b>	5.6.2 3.6.4
		<b>Level 1 south deck</b> <ul style="list-style-type: none"> <li>Stucco beside deck doors contacts deck tiles</li> <li>Junction at west end not sheltered</li> <li>Timber damage/corrosion to SW framing</li> </ul>	<b>Investigation/repairs required</b>	5.6.3 3.6.4
5	Window sill junctions (excluding north sliding window)	<ul style="list-style-type: none"> <li>North bedroom window heads recessed and sheltered under eaves</li> <li>Copper sill flashings, well maintained junctions</li> <li><i>West window heads sheltered by 'eyebrows'</i></li> <li><i>No evidence of moisture penetration after some 24 years</i></li> </ul>	Adequate in circumstances	3.6.4 5.7.1
6	Fascias embedded in plaster	<ul style="list-style-type: none"> <li>Fascia board under gutter to Level 2 ensuite</li> <li><i>No evidence of moisture penetration</i></li> <li><i>Low moisture readings in associated framing</i></li> </ul>	Adequate in circumstances	3.6.4 5.10
7	Lack of window restrictors	<ul style="list-style-type: none"> <li>Not in dispute</li> <li>Owner has agreed to remedy</li> </ul>	<b>Not considered</b>	1.5.1 3.6.4 5.11.1
8	New membrane roof and skylight junctions	<ul style="list-style-type: none"> <li>Original membrane 20 years old when new membrane and ply substrate overlaid original membrane some 4 years ago</li> <li>Minor ceiling cracks likely due to movement</li> <li><i>New membrane appears well installed</i></li> <li><i>No change to skylight junctions</i></li> <li><i>No evidence of moisture penetration</i></li> </ul>	Reroofing adequate Not relevant to issue of code compliance certificate	3.2 3.6.4 5.8

Areas of concern in S95A refusal (in summary)		Expert's comments <i>(with consultant's additional comments in italics)</i>	Compliance	Relevant paragraphs
9	Cracked plasterboard linings	<ul style="list-style-type: none"> <li>Minor cracks likely due to movement</li> <li>Cracks at sheet joints under some window jambs due to lack of offset</li> </ul>	Adequate in circumstances	3.6.4 5.10.1
10	Repairs to entry wall/roof junction	<ul style="list-style-type: none"> <li>Repairs to the north end of the party wall likely to be part of the recent re-roofing</li> <li><i>Some earlier repair work also likely carried out in about 1997</i></li> <li><i>No evidence of moisture penetration</i></li> </ul>	Adequate in circumstances	3.2 3.6.4 5.10.1
11	Wall/oblique rafter junctions	<ul style="list-style-type: none"> <li>Limited to the eave above the Level 2 bedrooms, where extend beyond the eave by about 300mm,</li> <li>Copper end caps, with the lower side tapered to fall at a steeper angle</li> <li>Water could track towards well sealed junction</li> <li><i>Rafters as per consent drawings</i></li> <li><i>No evidence of moisture penetration</i></li> </ul>	Adequate in circumstances	3.6.4 5.9
12	North sliding window	<ul style="list-style-type: none"> <li>No mechanical flashing to fibre cement infill panel</li> <li>Sealant junction allowing water penetration</li> <li>Water penetrating sill flashing/jamb junction and over sill flashing upstand</li> <li>Elevated moisture in timber</li> </ul>	<b>Investigation/repairs required</b>	3.6.4 5.7.2
13	Decayed window reveals/ sashes	<ul style="list-style-type: none"> <li>Water staining to some timber window sashes and interior sill reveals</li> <li>Appears to be result of long-term condensation</li> <li>No sign of 'water ingress paths from the exterior'</li> <li>Windows now some 24 years old</li> <li><i>No apparent decay</i></li> </ul>	Adequate in circumstances (although maintenance needed)	3.6.4 5.10
14	Moisture wicking into plaster where no ground clearances		<b>Refer Item 4</b>	
15	Courtyard block wall/timber junction at NE corner	<ul style="list-style-type: none"> <li>Crack extends across the top and down sides</li> <li>Water in crack does not penetrate further</li> <li><i>Low corrected moisture readings at NW corner</i></li> <li><i>Block wall constructed after stucco complete</i></li> </ul>	Adequate in circumstances (although maintenance needed)	3.6.3 3.6.4 5.5.2
16	Downpipe fixings	<ul style="list-style-type: none"> <li>Maintenance needed to some corroded clamps</li> <li>Additional clamps able to be fitted without disturbing stucco</li> </ul>	Adequate in circumstances (although maintenance needed)	3.6.4 5.10.1
17	Garage door ground clearances		<b>Refer Item 4</b>	
18	No handrail to basement stairs	<ul style="list-style-type: none"> <li>Not in dispute</li> <li>Owner has agreed to remedy</li> </ul>	<b>Not considered</b>	1.5.1 3.6.4 5.11.1
<b>Outstanding documentation</b>			Not relevant to determination	1.5.2 3.6.4

## 6. Compliance of Unit 6

6.1 I note that the original building consent for the townhouse building 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 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'.

- 6.2 In order to determine whether the authority correctly exercised its power in refusing to issue a code compliance certificate for Unit 6, I must therefore consider whether that unit complies with the provisions of the Building Code that applied when the consent was issued in 1992. An application can be made to the authority for a modification of durability requirements to allow durability periods for the external building envelope and structure to commence from the date of substantial completion of Unit 6 in June 1993. Although that matter is not part of this determination (see paragraph 1.5.4), I have taken the anticipated modification into account when considering the compliance of the claddings.

## **7. Discussion: the external envelope**

- 7.1 The evaluation of building work for compliance with the Building Code and the risk factors considered in regard to weathertightness have been described in numerous previous determinations (for example, Determination 2004/1).

### **7.2 Weathertightness risk**

- 7.2.1 Unit 6 has the following environmental and design features, which influence its weathertightness risk profile:

#### **Increasing risk**

- Unit 6 is the end unit of a townhouse building in a high wind zone
- it is three storeys high in part, with multi-level roofs and complex junctions
- there are no eaves to shelter the west and south walls
- although the monolithic wall cladding is over a cavity, the cavity is not drained

#### **Decreasing risk**

- the deck floor to the south deck is concrete
- the basement level is concrete masonry
- there are roof overhangs to shelter most of the north wall cladding
- external wall framing is generally treated to provide resistance to decay if it absorbs and retains moisture.

- 7.2.2 Using the E2/AS1 risk matrix to evaluate these features, elevations are assessed as having a high weathertightness risk rating. If details shown in the current E2/AS1 were adopted to show code compliance, a drained cavity would be required for the monolithic cladding at all risk levels. However, this was not a requirement at the time of construction in 1993.

### **7.3 Weathertightness performance**

- 7.3.1 The inspection records (see paragraph 3.1.3) indicate that the building envelope was complete before June 1993 and I have taken that into account when considering the weathertightness performance as wall claddings have generally continued to perform well beyond the minimum 15 years required by Clause B2 of the Building Code.

Prior to the recent reroofing, I also note that the original membrane roof had exceeded the minimum 15 years.

7.3.2 Generally the claddings appear to have been installed in accordance with good trade practice at the time of construction. However taking account of the expert's report and the consultant's report, I consider that the following areas require attention:

- the exposed deck/wall junction to the south living area (part Item 4).
- the sliding window to the north wall of bedroom 2 (Item 12)
- the stucco-clad framing beside the south garage wall (Item 17).

7.3.3 I also note the expert's and the consultant's comments on other areas identified by the authority (see Table 2) and I accept that these are adequate in these particular circumstances.

#### **7.4 Weathertightness conclusion**

7.4.1 The expert's report establishes that the current performance of the building envelope is not adequate because there is evidence of ongoing moisture penetration into several areas of the timber framing, with timber damage likely to at least one area. Consequently, I am satisfied that the cladding does not comply with Clause E2 of the Building Code. Because of the timber damage and the potential for further hidden damage, I am also satisfied that the timber framing may not comply with Clause B1.

7.4.2 In addition, Unit 6 is required to comply with the durability requirements of Clause B2, which requires a building to satisfy all the objectives of the Building Code throughout its effective life. The durability requirements of Clause B2 include a requirement for wall claddings to remain weathertight for a minimum of 15 years and for timber framing to remain structurally adequate for a minimum of 50 years.

7.4.3 Although wall claddings are now 24 years old, investigations have revealed evidence of moisture ingress into some areas over an extended period. The evidence of current and past moisture penetration therefore satisfies me that the cladding has not complied with Clause B2 insofar as it applies to both Clauses B1 and E2.

7.4.4 Because the identified moisture penetration and cladding faults occur in discrete areas, I am able to conclude that satisfactory investigation and rectification of areas outlined in paragraph 7.3.2 will result in the external envelope being brought into compliance with Clauses B1, B2 and E2 of the Building Code.

7.4.5 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.

7.4.6 Taking account of the expert's and consultant's reports, Table 3 summarises my conclusions on the authority's concerns identified for the external envelope of Unit 6.

**Table 3:**

Areas of concern (in summary using item numbers)		Comments	Conclusion	
			Compliance (7.4.4 and 7.5)	Maintenance (7.5.2)
2	Deck screen/cladding junction	<ul style="list-style-type: none"> <li>Screen not fixed through cladding</li> </ul>	Adequate	
3	Inter-cladding junctions (horizontal)	<ul style="list-style-type: none"> <li>Underlying copper flashing – plastered to give continuous finish</li> </ul>	Adequate	
4 14 17	Cladding clearances	<ul style="list-style-type: none"> <li>North veranda walls sheltered, with no evidence of moisture penetration</li> </ul>	Adequate	<b>Repair to crack recommended</b>
		<ul style="list-style-type: none"> <li>Very high moisture levels in bottom plate, which is below ground level</li> </ul>	<b>Investigation and repair required</b>	
		<ul style="list-style-type: none"> <li>Damaged framing at exposed west end of wall/south deck junction</li> </ul>	<b>Investigation and repair required</b>	
5	Window sill junctions	<ul style="list-style-type: none"> <li>Except for north sliding window, window heads sheltered with copper sill flashings and well maintained junctions</li> <li>No evidence of moisture penetration</li> </ul>	Adequate	
6	Fascias embedded in plaster	<ul style="list-style-type: none"> <li>No evidence of moisture penetration</li> </ul>	Adequate	<b>Ongoing maintenance</b>
8	New membrane roof and skylight junctions	<ul style="list-style-type: none"> <li>Re-roofing after 20 years considered appropriate maintenance</li> <li>Apparently well installed, with no change to skylight junctions</li> <li>No evidence of moisture penetration prior to or since re-roofing</li> </ul>	Not relevant to issue of code compliance certificate	
9	Cracked plasterboard linings	<ul style="list-style-type: none"> <li>Minor joint movement cracking</li> </ul>	Adequate in circumstances	<b>Ongoing maintenance</b>
10	Repairs to entry wall/roof junction	<ul style="list-style-type: none"> <li>If 1997 repairs – already 20 years old</li> <li>If part of re-roofing after 20 years, considered appropriate maintenance</li> <li>No evidence of moisture penetration</li> </ul>	Adequate	
11	Wall/oblique rafter junctions	<ul style="list-style-type: none"> <li>Junctions well sealed, with no evidence of moisture penetration</li> </ul>		<b>Ongoing maintenance</b>
12	North sliding window	<ul style="list-style-type: none"> <li>Water penetrating sealant reliant junctions, with elevated moisture levels in associated framing</li> </ul>	<b>Investigation and repair required</b>	
13	Decayed window reveals/ sashes	<ul style="list-style-type: none"> <li>Result of condensation soaking into timber – water stains but no apparent decay or water entry to date</li> <li>Joinery now 24 years old</li> </ul>	Adequate in short term	<b>Repair recommended</b>
14	Moisture wicking into plaster where no ground clearances		Refer Item 4	
15	Courtyard block wall/timber junction at NE corner	<ul style="list-style-type: none"> <li>Courtyard wall built after house wall</li> <li>Water able to enter crack, but unable to penetrate past stucco and cavity</li> <li>No evidence of moisture penetration</li> </ul>	Adequate in short term	<b>Attention needed</b>
16	Downpipe fixings	<ul style="list-style-type: none"> <li>Some corroded or missing clamps</li> </ul>	Adequate in short term	<b>Attention needed</b>
17	Garage door ground clearances		Refer Item 4	

## 7.5 Maintenance

7.5.1 Effective maintenance of the townhouse is important to ensure ongoing compliance with the Building Code and is the responsibility of the building owner. The Ministry has previously described maintenance requirements associated with the external building envelope, including examples (for example, Determination 2007/60).

7.5.2 In Table 3, I have identified areas where maintenance attention is considered necessary or prudent in the circumstances. While I accept that these areas do not affect my conclusions on the minimum compliance requirements, I strongly urge the owners to consider their implementation as part of repair work or otherwise as on-going maintenance of the townhouse. The reduction of future risks will improve longer-term durability and assist the claddings in protecting the underlying structure where the minimum durability requirement is 50 years.

7.5.3 In the case of this particular townhouse, I note the following:

- The townhouse design includes a number of high risk features, which require careful consideration of maintenance requirements of the monolithic cladding in order to ensure its ongoing weathertightness.
- The monolithic cladding is well-maintained, which I consider to be a key factor in the adequate weathertightness of the majority of the external wall cladding over the past 24 years.
- Although a modification of the durability provisions to allow the provisions to commence from the date of substantial completion in 1993 means that the most of the stucco cladding has remained weathertight for the required minimum 15 year period, the expected life of the building as a whole is considerably longer; and careful maintenance should continue to protect the underlying framing for its minimum required life of 50 years for the structure.

## 8. The durability considerations

8.1 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).

8.2 In this case the 24-year delay since substantial completion of Unit 6 in 1993 raises concerns that most elements of the townhouse are now well through or 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.

8.3 I have considered this in many previous determinations and I maintain the view that:

- 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
- 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 Unit 6 had been issued at the time of substantial completion in June 1993.

In regard to the separated building consent (BC 1257872) for Unit 6, I therefore leave the matter of amending that consent to modify Clause B2.3.1 to the parties once matters addressed in this determination are resolved.

## 9. What happens next?

- 9.1 I note that the original building consent was issued to the developer of the townhouse building, and as noted in Determination 2014/035<sup>15</sup>, no notice to fix is able to be issued to the current owners in respect of breaches of the Act or Regulations in respect of work carried out by previous owners.
- 9.2 If the applicants wish to pursue a code compliance certificate, a detailed proposal should be developed to address the investigations and defects identified in paragraph 7.3.2 of this determination. The proposal should be produced in conjunction with a suitably qualified person experienced in weathertightness remediation and should include further invasive moisture testing and timber sampling. The proposal for repairs should then be submitted to the authority for its consideration and approval.

## 10. The decision

- 10.1 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 1993:
- pending further investigation and repair, some of the timber framing may not comply with Building Code Clauses B1 and B2
  - external wall claddings do not comply with Building Code Clauses E2 and B2
- and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate for the townhouse.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 29 May 2017.

John Gardiner  
**Manager Determinations and Assurance**

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<sup>15</sup> Determination 2014/035: The issue of a notice to fix for weathertightness remedial work carried out by a previous owner at 16B Sunbrae Grove, Tauranga (Ministry of Business, Innovation and Employment) 15 August 2014.