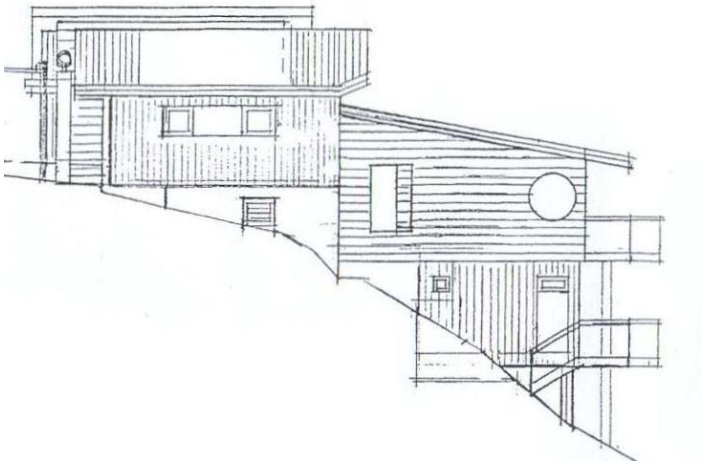
Department of Building and Housing
Te Tari Kaupapa Whare

Determination 2010/019

The refusal to issue a code compliance certificate for a house at 109a Torkar Road, Clarks Beach, Franklin



1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1of the Building Act 2004[1] (the "Act") made under authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (the "Department"), for and on behalf of the Chief Executive of that Department. The applicant is the owners, Mr and Mrs A Stevens acting through an agent ("the agent"). The other party to this determination is the Franklin District Council ("the authority") carrying out its duties and functions as a territorial authority or building consent authority.

1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate ("CCC") for a 2 year old building because it could not be satisfied on reasonable grounds that the unpainted soffit lining complies with Clauses E2 External moisture and B2 Durability of the Building Code[2] (Schedule 1, Building Regulations 1992).

[1] The Building Act 2004 is available from the Department's website at www.dbh.govt.nz
[2] The Building Code is available from the Department's website at www.dbh.govt.nz.
In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code

1.3 I take the view that the matter for determination is whether:

- The soffit lining as installed on the building complies with Clause E2 External moisture and Clause B2 Durability with respect to their weathertightness. By the "soffit lining as installed" I mean the soffit lining itself plus the accessories and fixings used to install the lining.
- The decision by the authority to decline to issue a CCC was correct.

1.4 In making my decision, I have considered the submission prepared by the owners' agent.

2. The building and background

2.1 The house is a multi-level dwelling built on a sloping north facing beach front section, built in 2007 under a building consent issued under the Act. The only element of this house subject to this determination is the soffit lining and its finish following installation.

2.2 The house has monoplane roofs, each with eaves ranging from 600mm to 1200mm in width. The soffit linings are attached to the roof beams which project beyond the walls to form the eaves. The roof beams are treated to H1.2 and H3.1 (the latter to the skillion roofs). The most exposed soffit linings are at an oblique angle to the walls (an angle of 55 degrees) at the uppermost edges of the roof - the eaves at this location are 600mm wide.

2.3 The soffits linings are grooved 7.5mm thick fibre-cement sheets that have 'v' grooves formed in their exposed face. The grooves are 2.5mm deep and at 100mm centres. The manufacturer's instructions say the fibre-cement sheets can be used as an internal lining (including laundries, and bathrooms), or as an external ceiling or soffit lining.

2.4 According to the agent the soffit linings have been detailed and installed in accordance with the building consent and are fixed with stainless steel fixings. There are drip edges to all the eaves, and flashings have been installed so that any water running down the soffit lining will be directed away from the junction of the soffit lining and the adjacent wall. No soffit linings will be subject to direct sunlight or the incidence of rain.

2.5 With respect to the finishing of the fibre-cement sheets generally, the manufacturers installation instructions says:

> … sheets must have a minimum of two coats of a quality 100% acrylic paint applied after fixing, as per paint manufacturers instructions. If staining, apply a coat of [brand name primer] prior to staining with [brand name stain].

No reference is made to the requirements for painting depending on end use. I take these instructions to mean that the fibre-cement sheets in any situation must either be finished with any generic acrylic paint system or a named stain.

2.6 The application for determination was received on 14 September 2009.

3. The submissions

3.1 The agent submitted with the application:

- a written submission including the background to the dispute
- some plans and part of the specification
- the manufacturer's instructions
- photographs of the completed house
- photographs of two commercial buildings, (14 and 25 years old) with unpainted fibre-cement soffit linings.

3.2 The agent submitted that, for aesthetic reasons, the owners want the soffits to remain unpainted. The agent acknowledged that manufacturer requires that the soffit lining should be painted but believes that even unpainted the soffits will be durable for the 15 years required by the Building Code. This assertion is based on the performance of 4.5mm unpainted fibre-cement soffit linings installed in two commercial buildings that continue to perform after 14 and 25 years.

3.3 The agent noted that the soffits have been detailed and installed in accordance with the Building Code and that stainless steel fixings have been used. The agent noted that the soffit linings are clearly visible and therefore easy to check and if necessary remove and replace without the removal of any other building element.

3.4 The authority did not provide a submission in response to the application. I have seen no correspondence from the authority giving its reasons for declining to issue the CCC.

3.5 The draft determination was issued to the parties for comment on 22 January 2010.

3.6 The authority did not accept the draft. In a letter to the Department dated 25 January 2010 the authority submitted that:

- The soffit lining forms part of the external envelope and is exposed to rain and sea spray.
- The manufacturer recommended the application of paint or a stain to achieve compliance with E2. Failure to follow the recommendations 'voids the product warranty'. (I note that according to the manufacturer's literature the product warranty for the soffit lining is 15 years).
- Salt-spray entering the roof space 'could result in [a] very serious failure'.
- It was not accepted that that fire-cement was resistant to the effects of moisture.

3.7 The applicant accepted the draft. In a letter to the Department dated 27 January 2010 the applicants submitted that:

- If fibre-cement was to fail as seriously as the authority expected after 15 years 'why is the product being used in any situation in the building industry'.

- The ingress of salt-spray into the rood space had been allowed for through ventilation of the roof space and the use of stainless steel fixings.
- The owners questioned the wisdom of covering the soffit lining 'so that we can see any signs of deterioration that may occur and attend to this rather than have a product that will deteriorate unseen'.

The applicants also supplied the results of moisture tests taken in 'at least 20 places' with a non-invasive moisture meter which showed no elevated readings.

3.8 I have taken account of the parties' comments and amended the determination accordingly.

4. The legislation

4.1 The relevant clauses of the Building Code include:

> **E2.3.3** Walls, floors, and structural elements in contact with, or in close proximity to, the ground must not absorb or transmit moisture in quantities that could cause undue dampness, damage to *building elements*, or both.
>
> **E2.3.7** *Building elements* must be constructed in a way that makes due allowance for the following:
> (a) the consequences of failure:
> (b) …
>
> **B2.3.1** Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:
> (a) …
> (b) 15 years if:
> (i) Those *building elements* (including the *building* envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, or
> (ii) Failure of those building elements to comply with the building code would go undetected during normal use of the building, but would be easily detected during normal maintenance.
> (c) 5 years if:
> (i) The building elements (including services, linings, renewable protective coatings, and fixtures) are easy to access and replace, and
> (ii) Failure of those building elements to comply with the building code would be easily detected during normal use of the building.

5. Discussion

5.1 I note fibre-cement soffit linings are commonly 4.5mm thick. The linings in this instance are 7.5mm thick with 2.5mm deep grooves.

5.2 The agent has provided sections from the specification for the house which I accept formed part of the approved consent documents. From the information I have seen there is no specific reference in the consent documents requiring the soffit linings to be painted.

5.3 The manufacturer's instructions provide for the application of either an acrylic paint system or a stain. In my view there is a significant difference between the two systems with respect to the level of protection they provide to the lining. The

manufacturer's instructions take no account of the finish required in relation to the intended end use and exposure of the material to the weather. The conclusion I draw from the manufacturer's instructions is that the lesser system (the stain) is an acceptable finish for use in the most exposed situation.

5.4 I acknowledge the authority's submissions with respect to the manufacturer's warranty for the lining. In my view while a manufacturer's warranty is a useful indication of the intended life of a product it should not be taken as a definitive statement about code compliance without consideration of how the product is used in any given situation.

5.5 The questions arising from expected performance of the soffit lining, in terms of code-compliance, are whether it is principally required to be durable of itself, or whether it is required to protect the building elements it covers to prevent the ingress of water that will cause undue dampness and/or damage to building elements. Clause E2.3.7 also says that the consequences of the failure shall also be taken into account.

5.6 Fibre-cement sheet is inherently durable with respect to the prolonged exposure to moisture. This is evidenced by the manufacturer's use of fibre-cement as a backing to wet area linings. It is also supported by the photographic evidence provided by the agent of 14 and 25-year-old unpainted fibre-cement soffit linings which appear to display no apparent failure of the material.

5.7 In this instance the soffit linings are in a relatively sheltered external environment. The soffit linings will not be subject to direct sunlight or precipitation, however, the linings will be subject to wind-blown moisture and will therefore become damp periodically. The drip edges to the eaves will lessen the effect of rain water from the fascias running down the soffit lining. The exposure of the eaves will ensure that any moisture retained in the material itself will be able to dissipate readily.

5.8 I have received no information to suggest that the soffit linings do not currently comply with Clause E2. Any failure of the eaves lining will, at worst, lead to the limited ingress of water into the eaves structure. I accept the agent's contention that any failure of the soffit lining would be readily detected as part of normal maintenance, with the lining easily removed and replaced. I also accept that the ingress of salt-spray into the roof space had been allowed for through ventilation of the roof space and the use of stainless steel fixings.

5.9 Having regard to the above I consider there are reasonable grounds for me to conclude that the unpainted soffit linings will meet the requirements of Clauses B2 and E2. In my opinion while the painting or staining of the soffit lining is advisable, it is not necessary in order to comply with the minimum requirements of the Building Code.

6. The decision

6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the building with unpainted soffits will meet the requirements of Clause E2 External moisture and B2 Durability of the Building Code, and accordingly I reverse the authority's decision to refuse to issue a CCC.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 4 March 2010.

John Gardiner
Manager Determinations