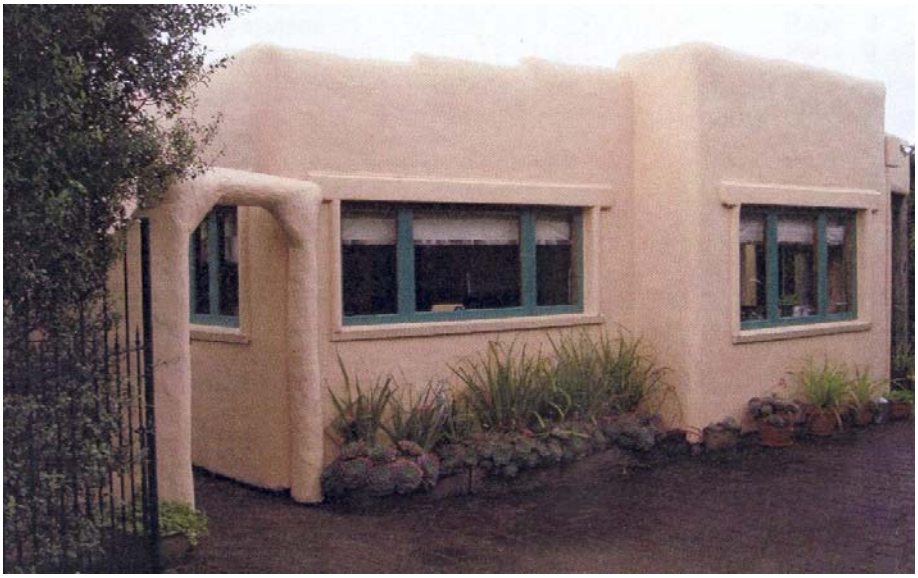
Determination 2007/103

Determination regarding a code compliance certificate for remediation work to a house with monolithic cladding at 399A Ulster Street, Hamilton



1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004[1] ("the Act") made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing ("the Department"), for and on behalf of the Chief Executive of that Department. The applicant is the remediation consultant Joyce Group Ltd ("the applicant") acting on behalf of the owner D Frame ("the owner"), and the other party is Hamilton City Council ("the territorial authority").

1.2 This determination arises from the decision of the territorial authority to refuse to issue a code compliance certificate for recently completed remedial work to a 10-year old house because it is not satisfied that the building work complies with clauses B2 and E2 of the Building Code[2] (First Schedule, Building Regulations 1992).

[1] The Building Act 2004 is available from the Department's website at www.dbh.govt.nz.
[2] The Building Code is available from the Department's website at www.dbh.govt.nz.

1.3 The matters for determination are whether the work carried out under consent 2005/12560 complies with the building code and whether the territorial authority was right to refuse to issue a code compliance certificate.

1.4 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Department to advise on this matter ("the expert"), and the other evidence in this matter. I have evaluated this information using a framework that I describe more fully in paragraph 6.

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

2. The building

2.1 The building work consists of remedial work to the wall and roof of an existing single storey house situated on a flat site, which is in a low wind zone for the purposes of NZS 3604[3]. The original house was completed in 1997 and the recent work involved repairs to the walls, joinery and roof. The house is specifically-designed with a post and beam structure with some load-bearing walls, and a concrete slab on driven-pile foundations. The house has monolithic cladding, timber joinery, and a metal roof with a symmetric trapezoidal profile. The house is fairly simple in plan but has a complex roof, with parapets to all walls and three different roof levels separated by parapets and clad in 3.5^{o} pitch profile metal roofing. A veranda extends from the curved northwest wall.

2.2 The expert noted no evidence as to timber treatment. I note that at the date of construction of the original house the use of untreated timber framing, under certain circumstances, was permitted. The applicant's report (refer paragraph 4.1) records that no decay was discovered during the remedial work. Given the apparent history of leaking prior to the repair work together with the lack of decay resulting from that leaking, I consider that the wall framing of this house is likely to be treated to a level that will provide resistance to fungal decay.

2.3 The wall and roof claddings are as follows:

2.3.1 The wall cladding is a monolithic cladding system described as solid plaster over a non-rigid backing. In this instance it consists of 25mm stucco plaster on mesh reinforcing fixed through building wrap over 20mm timber battens and building wrap to the framing timbers. The original plastered parapets incorporated a membrane waterproofing layer wrapped over the battens prior to the installation of the plaster. These were found not to be leaking. The remedial work was to cut back the inner edge to form a drip edge, and then to apply an additional layer of a modified fibreglass mesh-reinforced plaster system. The original timber windows incorporated timber facings, which have since been replaced with plastered polystyrene bands. The original heavy timber sills have been retained, with the new bands butting against the top slope of the sill. Repair work has included the installation of a uPVC "Rockcote" window flashing system, fibreglass-reinforced

[3] New Zealand Standard NZS 3604:1999 Timber Framed Buildings

plaster to repaired parts of the cladding, a two-coat reinforced fibreglass modified plaster coating system to the parapets, and a high build "Resene X200" paint coating to all of the cladding.

2.3.2 It appears the owner's initial intention was to replace the roof. However, this was subsequently considered to be unnecessary. Repairs were made to foot traffic damage and consisted of patching damaged ribs. A new membrane coating was applied to the gutters and the roof was also repainted.

2.3.3 The plasterer has provided an undated producer statement for the remedial plaster and window flashing work, stating that the repairs have been "completed to the extent required and in accordance with New Zealand Building Code E2.3.1". The roof repairers, Roofing Specialists Ltd, have provided a 5-year "Warranty of workmanship for metal roofing and spouting" dated 5 February 2007.

3 Background

3.1 The building consent for the original building (No. 96/363) was issued in February 1996 (according to the date stamped on the consent drawings) and the territorial authority issued a code compliance certificate for the construction on 26 November 1997. The building subsequently leaked and became the subject of a WHRS[4] claim in 2004, which was subsequently settled.

3.2 The territorial authority was involved in initial general discussions with the applicant with regard to the required repairs, and a building consent (No. 2005/12560) was issued on 26 May 2005 for the remedial work. Accordingly the consent was issued under the Building Act 2004. However the work to be carried out under this consent was not clearly defined when the consent was issued. The consented work was noted as "repair roof, joinery and exterior cladding system."

3.3 According to the territorial authority Consent 2005/12560 was issued on this basis and would be subject to later amendment when the extent of work was finalised, refer to paragraph 4.3.

3.4 According to the applicant, the scope of the consent was amended in November 2006, when destructive investigation work to the parapets revealed that the original waterproofing membrane had been effective in preventing moisture penetration and the leaks had resulted from defects in the internal gutter outlets and the roof fixings (rather than from defects in the parapet construction). The repair work to the parapets was therefore amended to include the addition of a fibreglass-reinforced plaster over the existing parapets, rather than replacing the plaster. However I have not seen an amended consent.

3.5 The repair work was observed and recorded by the applicant during construction (refer paragraph 4.1), but was not inspected by the territorial authority until it was completed in February 2007. It appears that, due to an oversight on the part of the builder, no inspections were requested from the territorial authority. The territorial

[4] Weathertight Homes Resolution Service

authority inspected the completed work, and refused to issue a code compliance certificate.

3.6 The Department received an application for a determination on 9 March 2007.

4 The submissions

4.1 The applicant made a submission in the form of a report, dated February 2007, on the remedial works. The report summarised the history of the project, described the repair work carried out and provided a photographic record of the construction. The report attached a statement by the applicant dated 27 February 2007, which noted that the works had been observed and that:

> All works viewed were carried out to meet NZS3604: 1990 and associated building codes.

4.2 Included within the report, the applicant supplied copies of:

- Some drawings for the remedial works
- various producer statements, warranties, technical details and other statements.

4.3 The territorial authority made a submission in the form of a letter to the applicant dated 18 April 2007, which was copied to the Department. The territorial authority set out the history of the project, describing the workmanship of the original building as "pretty rough and ready" and noting its involvement in initial general discussions on the repair work required. The territorial authority stated:

> Because this type of work is very much an unknown quantity to some extent it has been council policy to work with the applicant through the process rather than placing obstacles in the way of moving forward. In saying this we respect that not all appropriate documentation can be expected at the outset of the building consent process and it is not until some time into the actual work that the full implications of repair work is known. We therefore rely on the inspection process through the repair phase and obtain a full set of as built drawings for work that has not already been documented. Issue of a code compliance certificate is therefore based on initial discussions and documents, the inspection process and complete documentation at the end of the job."

4.4 The territorial authority noted that in this case it had not been given the opportunity to review the repairs during construction and had also initially understood that the roof and gutters had been identified as a major source of water penetration, and would therefore be replaced. However, the territorial authority also noted:

> ...we are reasonably satisfied with the documentary evidence of the repair work carried out. It appears the repair work was carried out to a high standard and we have all of the necessary paperwork to support that the correct procedures were followed. The writer inspected the completed repair work and suggested that some extra capping be installed in some areas on the roof. The builder completed this. We are of the opinion that the building is completely weathertight at this stage and all the evidence tends to support that.

The territorial authority considered that the matters for determination are:

1. Council has refused to issue a code compliance certificate for the repair work because we are not satisfied that the durability and weathertightness provisions of the building code have been met. We are concerned that the approval of a code compliance certificate would result in a further 10 years of liability. In our view we would support a determination on the basis of a number of previous determinations in similar circumstances with DBH have considered the time elapsed since the issued of the original consent.
2. Given that the roof is second-hand and repaired, we are of the opinion that if it were to leak within the next 10 years Council could and would be liable for the problem. We would request that DBH takes into account our concerns with durability in making a determination.

4.5 Copies of the submissions and other evidence were provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

4.6 The draft determination was sent to the parties for comment on 18 July 2007. Both parties accepted the draft. However, in a letter to the Department, dated 20 August 2007, the applicant advised that the defective items in the draft determination had been attended to and were awaiting final inspection by the territorial authority. In spite of these matters being fixed, the territorial advised that it still wished to see determination finalised and issued.

5 The expert's report

5.1 As discussed in paragraph 1.4, I engaged an independent expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a member of the New Zealand Institute of Building Surveyors.

5.2 The expert inspected the remedial work on 21 and 30 May 2007, and furnished a report that was completed on 19 June 2007. The expert noted that the wall cladding had been repainted and was generally in good condition, and that "the overall standard of workmanship is good". The expert noted that the repair work appeared to conform to the consent drawings, the new window flashings generally appeared effective, penetrations were adequately sealed and the overlap at the base of the stucco appeared satisfactory. The expert noted that the roof had been patched with silicon-sealed galvanised caps over the roof ribs, and the internal gutters had been coated with a waterproofing membrane.

5.3 The expert noted the polystyrene band at the window jambs butted against the top slope of the original timber window sill, with sealant used at the junction. The expert removed a small section of the band and the underlying plaster at the jamb to sill junction of a west window to observe the construction details. I accept that the area inspected is typical of similar windows elsewhere in this house.

5.4 The expert inspected the interior of the house and took non-invasive moisture readings; and no evidence of moisture was observed. The expert took 15 invasive moisture readings through the stucco below windows and at the parapets, and the following elevated readings were noted:

- 22% below the sill to jamb junction of the west bedroom window
- 18.5% at the bottom plate below the west bedroom window

The average base moisture readings around the house were 14%. The above readings seem to vary significantly from that average. Such variance after the cladding is in place generally indicates that external moisture is entering the structure and further investigation is required.

5.5 Commenting specifically on the claddings, the expert noted that:

- the new polystyrene band at the window jamb butts against the timber window sill, with sealant as the only weatherproofing at the junction and without any underlying flashing to prevent moisture from penetrating into the structure
- clearances from the bottom of the stucco to the ground or paving are inadequate in a number of areas
- some of the rainwater heads lack provision for overflow
- there is unsealed and unpainted plaster around some of the gutter outlets and behind the rainwater heads.

5.6 The expert also observed no evidence that vertical control joints had been installed in several walls that would usually require these at 4 metre minimum spacings. However, the expert could see no evidence of damage as a result of this omission.

5.7 The expert also noted that the roof cladding is reliant on sealant, and the fibreglass-reinforced modified plaster parapet coatings for weathertightness, and will require on-going attention and monitoring by the owner to maintain the weathertightness of the roof. I also note the weathertightness of the roof is also reliant on the ongoing performance of the applied waterproof membrane to the gutters.

5.8 A copy of the expert's report was provided to each of the parties on 26 June 2007.

6 Evaluation for code compliance

Weathertightness performance: remedial work

6.1 Generally the remedial work to the wall and roof claddings appears to have been carried out in accordance with good trade practice. However, I accept the expert's opinion that further remedial work is necessary in respect of the following:

- Inadequate weatherproofing of the jamb to sill junctions.
- Inadequate cladding clearances above some areas.
- Lack of provision for overflow to some rainwater heads
- Lack of sealing of plaster around some outlets and behind rainwater heads

6.2 Given the critical need for the gutters, the gutter outlets, and the rainwater heads to perform in order for the structure to remain weathertight, and the nature of the remedial work to these items mentioned above, I am of the opinion that the detailing

of the gutter outlets, where these pass through the parapet walls, needs to be reviewed by the territorial authority.

6.3 I note the expert's comments in paragraph 5.6 regarding the apparent lack of vertical control joints to several walls where dimensions exceed the length recommended in NZS 4251[5]. However the seriousness of these omissions is offset to some extent by the fact that the stucco cladding appears to have generally installed to good trade practice and has been in place for more than ten years with no apparent signs of moisture entry as a result of movement.

6.4 During the period since construction, all drying shrinkage in the cement plaster and supporting framing will have likely occurred, and the claddings future performance will be governed solely by response to environmental factors such as imposed temperature and moisture effects, wind, earthquake forces and seasonal foundation movements. I therefore consider that, in this particular building, the plaster system as installed is adequate, without retrofitting control joints.

7 Discussion

7.1 The first point at issue in this case is what work was covered by consent 2005/12560. A code compliance certificate can only be issued for building work that "complies with the building consent", section 94(1)(a) of the building Act 2004. As noted in the territorial authority's submission the work was only described in general terms and the intention was to amend the consent by establishing in detail what was carried out. Therefore, before any code compliance certificate can be issued the building consent must be amended to properly define the work concerned.

7.2 Once that has been done, then as I read section 94(1)(a) the territorial authority must issue the code compliance certificate if it is satisfied on reasonable grounds that the building work specified in the amended consent complies with that consent and the other requirements of section 94 have been satisfied. It is not open to the territorial authority to refuse to issue a code compliance certificate because of concerns about future legal liability.

7.3 The general intent was that the work would include window repairs, a new roof, and reconstructed parapets. The work actually undertaken included:

- repairs and alterations to the windows
- re-pairing the parapets with a fibreglass-reinforced modified plaster
- internal gutters coated with a waterproofing membrane
- repairs to foot traffic damage to the roof.

7.4 As noted in the territorial authority's submission (refer paragraph 4.3) the roof can be assumed to be "*completely weathertight*", and given that there is a warranty of workmanship for the roof repairs for five years from February 2007, I consider the roof is meeting durability requirements of the code at the date of completion in 1997

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

(refer paragraph 8.2) when a code compliance was issued under consent 96/363. I consider the patching of the work could be considered as maintenance (refer paragraph 7.7) and accordingly not part of the work which was carried out under the second consent. I note also that the roof may well be nearing the end of its normal life and may require replacing as part of such ongoing maintenance in the short to medium term.

7.5 I consider the expert's report establishes that the current performance of the cladding is not adequate because it is allowing water penetration into the building at one location at present. Consequently, I am satisfied that the cladding, despite remedial work to the windows, does not yet comply with clause E2 of the Building Code.

7.6 Because the faults identified with the cladding systems occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.2.1 will result in the building becoming and remaining weathertight and in compliance with clauses B2 and E2.

7.7 Consent 2005/12560 must be amended to cover the upgrade to the parapets, the window installation and renewal of the guttering, and must include the work necessary to address the matters listed in 6.2.1 above. The amended consent should not mention other repairs to the roof as they could be done without consent under Schedule 1(a). When completed to the satisfaction of the territorial authority the building work specified in the amended consent will comply with the durability requirements of the code from the date of issue of the code compliance certificate.

7.8 I emphasise that each determination is conducted on a case-by-case basis. Accordingly, the fact that particular cladding systems have been established as being code compliant in relation to a particular building does not necessarily mean that the same cladding systems will be code compliant in another situation.

7.9 Effective maintenance of claddings (in particular of monolithic claddings) is important to ensure ongoing compliance with clauses B2 and E2 of the Building Code and is the responsibility of the building owner. Clause B2.3.1 of the Building Code requires that the cladding be subject to "normal maintenance", however that term is not defined in the Act.

7.10 I take the view that normal maintenance is that work generally recognised as necessary to achieve the expected durability for a given building element. With respect to the cladding, the extent and nature of the maintenance will depend on the material, or system, its geographical location and level of exposure. Following regular inspection, normal maintenance tasks should include but not be limited to:

- where applicable, following manufacturers' maintenance recommendations
- washing down surfaces, particularly those subject to wind-driven salt spray
- re-coating protective finishes
- replacing sealant, seals and gaskets in joints.

I also draw specific attention to comments made in paragraph 5.7.

8 The decision

8.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the cladding does not comply with clauses E2 and B2 of the Building Code, and that the items listed in paragraph 6.2.1 are not code-compliant. Accordingly, I confirm the territorial authority's decision to refuse to issue a code compliance certificate.

8.2 I also determine that, before a code compliance certificate can be issued, the work to which it applies is to be clarified:

(a) the building consent is hereby amended to omit mention of replacement or repairs of the roof and to include;

- Remedial work to the windows and wall cladding
- Upgrading work to the parapets
- Upgrading work to the guttering

With as built drawings as deemed necessary by the territorial authority.

(b) the territorial authority, once the matters set out in paragraph 6.2.1 have been rectified to its satisfaction, is to issue a code compliance certificate in respect of the building consent as amended.

8.3 I note that that the territorial authority has not issued a notice to fix. The territorial authority should now issue a notice to fix that requires the owners to bring the remedial work up to compliance with the Building Code, identifying the defects listed in paragraph 6.2.1 and referring to any further defects that might be discovered in the course of rectification, but not specifying how those defects are to be fixed. It is not for me to decide directly how the defects are to be remedied and the cladding brought to compliance with the Building Code. That is a matter for the owner to propose by way of an application for an amendment to the building consent and for the territorial authority to accept or reject.

8.4 I would suggest that the parties adopt the following process to meet the requirements of paragraph 8.3. Initially, the territorial authority should issue the notice to fix. The owner should then produce a response to this in the form of a detailed proposal, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified issues. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 7 September 2007.

John Gardiner
Manager Determinations