



Determination 2016/062

Regarding additional information required by the authority before issuing a code compliance certificate for a house and garage at 14A Wilson Street, Bulls

Summary

This determination considers the information required to establish on reasonable grounds that specific elements of building work complies with the relevant clauses of the Building Code. At issue was the compatibility of plumbing fittings and pipes from different manufacturers, and whether evidence of construction monitoring was required.

1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the 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 owner of the house, N Colliver , who applied for this determination (“the applicant”)
- Rangitikei District Council (“the authority”), carrying out its duties as a building consent authority
- the purchaser in a sale and purchase agreement for the house, represented by a legal adviser (“the new owner”).

1.3 This determination arises from the applicant’s disagreement with the decision of the authority to withhold issuing a code compliance certificate for a newly constructed house and garage until further information, in addition to that which is known, is supplied by the applicant regarding:

- the compatibility of plumbing fittings and pipes used from different manufacturers, to establish compliance with Clause G12 Water Supplies²; and
- evidence of construction monitoring regarding the garage bottom plate hold down bolts to support the PS4 supplied by the applicant’s engineer, to establish compliance of the structure with Clause B1 Structure of the Building Code.

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

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

- 1.4 The matter to be determined³ is therefore the authority's proposed exercise of its powers of decision to refuse to issue a code compliance certificate. In making my decision I have considered whether the authority already holds sufficient evidence regarding compliance of the building work to be satisfied on reasonable grounds that the building work complies with the relevant clauses of the Building Code.
- 1.5 In deciding this matter, I have considered the submissions of the parties. I have not considered compliance of the building work with any other aspects of the Act or other clauses of the Building Code.

2. The building work

- 2.1 The disputed items are part of a 95m² three-bedroom house ("the house") and a separate 50m² garage and workshop ("the garage"). Both the house and garage use a proprietary engineered construction system using SIPs panels. The house is founded on timber piles and framing, and the garage sits on a concrete foundation. The SIPs panels comprise an expanded polystyrene foam core with a metal outer skin. The building work is complete.

The plumbing system

- 2.2 The plumbing system installed in the house comprises components from three manufacturers. Polybutylene pipes have been used with fittings from various manufacturers. The three suppliers for these fittings have supplied warranty and guarantee information for each of these products. All components used in the plumbing system are WaterMark⁴ certified and comply individually with New Zealand Standard AS/NZS 2642⁵, however the compatibility of these components is being questioned by the authority.
- 2.3 The consent specification does not describe the pipework system or the component materials to be used.
- 2.4 The completed plumbing system has been subjected to a pressure test in excess of the level required (refer paragraph 5.2.4). The plumber advised that the system 'held up extremely well under a pressure test of 200kPA over two weeks.'

The hold down bolts

- 2.5 The design for the garage required a number of M10 and M12 concrete anchors ("the hold down bolts") to secure aluminium angles, bottom channels, and plates to the concrete slab to which the structure is then fixed.
- 2.6 The bottom channels are provided predrilled with holes at 300mm centres with the holes alternating between one side of the channel to the other; this to assist in ensuring the correct edge distance from the bolt fixing to the edge of the concrete slab. A bolt is installed in every second hole at 600mm centres.
- 2.7 The applicant's engineer has provided a Producer Statement - PS4- Construction Review ("PS4") for the construction of the garage. The authority has requested the engineer's inspection notes to support the PS4.

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

⁴ WaterMark is a certification trademark and used in relation to water supply, sewerage, plumbing and drainage goods.

⁵ AS/NZS 2642 Polybutylene pipe systems, Parts 1, 2 and 3

3. Background

- 3.1 The authority issued building consent no. BC160034, dated 17 March 2016, for the construction of the house and garage.
- 3.2 Separate Producer Statements - PS1 - Design ("PS1") were issued for the house and garage. The PS1 for the house, dated 21 August 2015 specifies construction monitoring to CM3 as a requirement. The PS1 for the 'garage and workshop', dated 21 July 2016, specifies construction monitoring 'as per agreement with the owner/developer'.
- 3.3 The inspection record for the building work detailed the following items in accordance with the building consent:
- Foundation/2 Pile/Concrete Floor
 - Subfloor Building
 - Subfloor Plumbing/Drainage
 - Wall/Roof Framing
 - External Moisture Walls/Roof Essential to inspect sealant to exterior joinery prior
 - Preline Plumbing/Drainage
 - Drainage
 - Final Plumbing/Drainage
 - Final-Residential
- 3.4 Inspections of the building work were undertaken by the inspector on the following dates:
- 18 April 2016 – Foundation/Pile/Concrete Floor (Fail)
 - 1 June 2016 – External Moisture, Walls/Roof (Pass)
 - 7 June 2016 – Subfloor Building (Fail), External Moisture Walls/Roof (Pass)
 - 4 July 2016 – Final inspection (Fail).
- 3.5 An amendment to the building consent, BC160034A dated 21 August 2016, was issued with revised drawings and plans for the house and garage. A revised PS1 was provided for the garage but not the house. The authority requested a PS1 for the revised plans. A PS1 dated 1 September 2016 was subsequently provided.
- 3.6 The building work did not pass all inspections due to the issues relating to compatibility of materials and construction monitoring as set out in paragraph 1.3 of this determination. Subsequent email correspondence included advice from the Ministry regarding the plumbing fittings and pipes, including an email on 25 July 2016, saying:
- Products from different manufacturers must be compatible and installed in accordance with the manufacturer's recommendations.
- 3.7 Resolution was not achieved, and on 12 September 2016 the authority formally requested additional information from the applicant in order for it to be satisfied that compliance with the Building Code had been achieved. The authority requested:
1. Confirmation from [the manufacturer of the fittings] that their products are compatible with the other pipes used,
Or
 2. Remove all [of that manufacturer's] fittings and replace with compatible fittings which we will need to sight.

And

3. Please provide a PS4 from the engineer in relation to the hold down bolts for the garage panels as these were not sighted during construction.
- 3.8 A PS4 for the garage, dated 12 September 2016, was provided to the authority on the same day.
- 3.9 On 13 September 2016, the applicant outlined information that it required in addition to the PS4 that had already been provided. In respect of the pipework, the applicant provided a letter written by the plumber to confirm that the installation was satisfactory, stating that the elements were compatible by meeting the size specifications set out in Australia /New Zealand Standard AS/NZS 2642. Two of three of the manufacturers also stated that their products are compatible with those of other manufacturers, having provided further detail on the warranty and guarantee conditions, such as installation recommendations.
- 3.10 The authority did not accept this and suggested a determination as a pathway to resolving the dispute.
- 3.11 The Ministry received an application for a determination on 13 September 2016.

4. The submissions

- 4.1 The application was accompanied by the following supporting documentation:
 - Plans and specification for the house and garage.
 - PS4 dated 12 September 2016 'New garage and workshop'.
 - Letter from plumber, the warranty for the fittings.
 - Emails between the parties.
- 4.2 With the application for determination, the applicant submitted (in summary):
 - Although the plumbing fittings and pipes installed come from different manufacturers, each individually meet AS/NZS 2642 and have the WaterMark seal. The applicant acknowledges the fittings manufacturer's warranty is null and void unless the entire proprietary system is installed using only that manufacturer's products and tools.
 - All pipes and fittings are accessible and replaceable without removing any wall linings. The plumbing system has passed a pressure test undertaken by the plumber, and the plumber has provided written confirmation of satisfaction with the overall installation.
 - The inspection list corresponding to the building consent did not specify a requirement to inspect the bolts. However the applicant acknowledged the bolts as an important component to the structure and photographed them at installation to provide to the authority. The applicant also states that the garage walls were constructed well in advance of the final inspection, and therefore the authority had the opportunity to inspect the bolts specifically.
 - The applicant views the request for further information as being in excess of what is needed, and requests the code compliance certificate to be issued without further delay as the house has been sold subject to a code compliance certificate.

4.3 The Ministry received a submission from the authority in response to the application on 14 October 2016, providing further supporting information, including:

- correspondence between the parties
- manufacturing information
- the authority's Site Notice dated 4 July 2016
- PS1 dated 21 August 2015 for 'Structural design of [proprietary name] 3 bed house'
- PS1 dated 21 July 2016 for 'Structural design of garage and workshop'
- IPENZ practice note 1 – Page 7, PS4 requirements
- owner site inspection record issued with BC 160034 issued 17 March 2016
- PS1 dated 1 September 2016 for '[Proprietary name] 3 BR house'
- the authority's inspection records.

4.4 The key points provided by the authority in this submission were:

- It has not refused to issue the code compliance certificate, but requires further information to show how the plumbing system and the garage hold-down bolts respectively meet the requirements of the Building Code.
- The plumbing components must be both compatible with one another and installed in accordance with the manufacturer's recommendation following the Ministry's advice set out in paragraph 3.6.
- The recommendation of the fittings manufacturer to use the total system has not been followed; the plumbing system uses products from multiple manufacturers.
- The PS1 for the house required construction monitoring to CM3, it was not unreasonable to require the same monitoring for the garage.
- It has not refused to accept the PS4 for the garage, rather the authority asked for the evidence to support the producer statement which is in line with common practice. In this instance the information required is the inspection notes of the supervising engineer.
- The required site inspections were not called for by the applicant. The 'wall and roof framing [inspection] would include the siting (*sic*) of the garage bottom plate'.
- Photos of the bolts are 'of no value [as it is] unable to verify they are from the relevant site.'
- The authority was concerned about the accuracy of the records provided by the applicant, particularly the amendment to the PS1.

4.5 The Ministry received a further submission from the applicant providing additional supporting information, including:

- plans, drawings and calculations for both the house and garage
- a PS1 for the house, dated 21 August 2015, and evidence of the engineer's qualifications and membership

- building consent certificate for BC 160034, dated 17 March 2016.
 - owner site inspection record
 - Producer Statement - PS2 – Design review, dated 23 February 2016, for ‘Structural Design of EPS Panel Double Garage’
 - amended Building Consent BC160034A, amended plans, drawings and calculations
 - a PS1, dated 21 July 2016, for ‘Structural design of the garage and workshop’.
- 4.6 A draft determination was issued to the parties for comment on 15 November 2016.
- 4.7 The applicant accepted the draft without comment on 16 November 2016.
- 4.8 The authority did not accept the draft determination. In a submission dated 28 November 2016 the authority noted, in summary, that:
- its concerns rested with the compatibility and durability of the fittings, and not with the manufacturer’s warranty
 - the relevance of the importance level for the garage was questioned when all work is required to comply with the Building Code – it was the authority’s responsibility to verify compliance
 - reference was made to the errors in the producer statements and the difficulty the authority had in reconciling the different information provided; one PS1 was issued post construction, and the PS4 was issued two months after completion
 - it was not accepted that the plumbing fittings had a minimum 5-year durability period – 15 years was appropriate
 - it was not accepted that the photos provided by the applicant could be relied upon; they were ‘unverified’ and had no date stamp, GPS reference or similar
 - a marked-up photo of the bottom channel showing pre-drilled holes with no bolt to every second hole, and a channel that had no predrilled holes
 - the authority included and made reference to a magazine article on the judgement to be exercised when accepting producer statements.
- 4.9 The authority provided an email on 29 November 2016 with two photographs also noting missing bolts to the bottom channels.
- 4.10 In response to the authority, the applicant said that the pre-drilled holes in the bottom channel were at 300mm spacing’s so only every second hole was used, meaning the bolts shown were at 600mm centres. The channel with no pre-drilled holes was not a bottom channel.
- 4.11 The new owner made no response to the draft determination.

5. Discussion

5.1 The applicable legislation

5.1.1 Section 17 of the Building Act 2004 requires that all building work complies with the Building Code, whether or not a Building Consent is required.

5.1.2 It is the responsibility of the building consent authority to ensure that building work has been carried out in accordance with the building consent issued for that work and that the building work complies with the Building Code. A building consent authority must ensure it has met its responsibilities under section 14F of the Building Act before issuing a code compliance certificate for completed building work. This requires inspection of the building work in most instances.

5.2 The water supply pipework: Clause 12 Water supplies

5.2.1 The authority required further evidence to ensure that each element of the plumbing system installed in the house is compatible to in order to satisfy Clause G12 of the Building Code. The applicant disputes that the compliance of the plumbing system is in question, and has provided statements from two of the three manufacturers of the products used, and a statement from the plumber to support this.

5.2.2 As detailed in paragraph 2.2 of this determination, all components of the plumbing system are WaterMark certified and comply individually with AS/NZS 2642. Two of the three manufacturers also guarantee their products when used with compliant products from other manufacturers:

[These proprietary] fittings and pipe are manufactured to the AS/NZS 2642.1, 2 and 3 standards and as such any compatible competitor's pipe made to the same standard would be suitable for use with [these] fittings. If the pipe specifications are correct to the AS/NZS 2642.2 standard and the crimped fitting gauges appropriately, [the manufacturer] will guarantee the connection.'

5.2.3 However, the manufacturer of the fittings that are the subject of this determination has not confirmed or denied compatibility of the pipes:

'It is strongly recommended that tradesmen use [the manufacturer's] total system ie [proprietary] clamp tools, [proprietary] PB-1 pipe and clips, [proprietary] fittings, to ensure total compatibility of installations.'

5.2.4 The plumber who undertook installation of the plumbing system has provided written support for the compatibility of each component of the plumbing system, and further evidence of a pressure test to 200kPA over two weeks. The plumbing system passed this test.

Durability requirements

5.2.5 The minimum durability period for the water supply pipework and fittings in this case is 5 years as these elements are easy to access and replace, and failure is easily detected during normal use of the building (refer Clause B2.3.1(c)). This is also reflected in Table 1 of the Acceptable Solution for B2 Durability, B2/AS1 which shows pipes and fittings that are surface mounted and easy to replace have a minimum 5-year durability requirement.

Conclusion

5.2.6 I consider that support from two of the three manufacturer's for use of their products with other compliant products, the WaterMark certification, along with the pressure test and statement of the plumber, provides sufficient evidence of compatibility of

the components used and therefore the compliance of the water supply system for the 5-year durability period.

5.3 The hold-down bolts

- 5.3.1 The authority says it does not accept the PS4 regarding the inspection of the hold down bolts for the garage until it receives the engineer's inspection notes to support the PS4; the compliance of the garage does not of itself appear to be in dispute. The applicant disputes the authority's requirement, having provided the PS4 which was over and above the requirement specified in the PS1. The provision of a PS4 for the garage does not appear to have been a condition listed on the building consent.
- 5.3.2 I acknowledge that there has been some degree of misunderstanding between the parties arising from a lack of clarity in documentation.
- 5.3.3 The authority maintains some required inspections were not called for and carried out. I note that the inspections described in the consent included the requirement for a 'Wall/Roof Framing' inspection which is carried out after the framing is complete, and yet this inspection is not applicable to either building as neither uses framed-construction, apart from the subfloor framing to the house. The matter at issue is the sighting and verification of the bolts securing the bottom channel located under the SIP's panels.
- 5.3.4 There are a variety of producer statements issued for this work. I consider the applicable producer statement is the PS1 for 'Structural design of garage and workshop' dated 21 July 2016. The PS1 does not specify construction monitoring beyond that agreed by the owner. The verification that the correct bolts were installed correctly does not require specialist expertise.
- 5.3.5 The applicant has provided photos of the bottom channel bolted to the concrete foundation. The bottom channels are pre-drilled, ensuring the bolts are installed at the correct centres and distance from the edge of the slab (refer paragraph 2.6). The photos clearly show the bolts in place at the required centres, and the photos give sufficient context to identify the job and site.
- 5.3.6 I do not accept the authority's contention that the photos are "unverified" – the photos show the site and immediate locality in sufficient detail in order to be satisfied that the photos are of this particular site. The photos can be checked against the plans, and the photos also show the neighbouring house allowing verification of the site and the building.

Conclusion

- 5.3.7 Taking into account the lack of construction monitoring required in the PS1, the provision of the PS4, the straightforward nature of the work, and the photographic evidence provided by the applicant; I conclude that the provision of the engineer's inspection records to verify the installation of the hold down bolts is not required to verify compliance.
- 5.3.8 I accept there may be some matters arising from the issue of the various producer statements that are disputed by the authority. The author of the statements has not been included as a party to the matter, and the determination does not consider in detail the validity or otherwise of the statements made. The decision made herein does not turn on the validity of those statements.

5.3.9 I conclude therefore that the authority has sufficient information on which to establish on reasonable grounds that the building work complies with the Building Code and can issue a code compliance certificate for the building work completed at 14A Wilson Street, Bulls.

6. The decision

6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the authority proposed to incorrectly exercise its powers in respect of the refusal to issue a code compliance certificate unless the additional information described herein was required.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 16 December 2016.

John Gardiner
Manager Determinations and Assurance

Appendix A

A.1 The relevant sections of the Act include:

14B Responsibilities of owner

An owner is responsible for—

- (a) obtaining any necessary consents, approvals, and certificates:
- (b) ensuring that building work carried out by the owner complies with the building consent or, if there is no building consent, with the building code:
- (c) ensuring compliance with any notices to fix.

14F Responsibilities of building consent authority

A building consent authority is responsible for—

- (a) checking, in accordance with the requirements of this Act for each type of building consent, to ensure that—
 - (i) an application for a building consent complies with the building code:
 - (ii) building work has been carried out in accordance with the building consent for that work:
- (b) issuing building consents and certificates in accordance with the requirements of this Act.

14G Responsibilities of product manufacturer or supplier

- (1) In subsection (2), product manufacturer or supplier means a person who manufactures or supplies a building product and who states that the product will, if installed in accordance with the technical data, plans, specifications, and advice prescribed by the manufacturer, comply with the relevant provisions of the building code.
- (2) A product manufacturer or supplier is responsible for ensuring that the product will, if installed in accordance with the technical data, plans, specifications, and advice prescribed by the manufacturer, comply with the relevant provisions of the building code.

17 All building work must comply with building code

All building work must comply with the building code to the extent required by this Act, whether or not a building consent is required in respect of that building work.