

Determination 2024/050

Regarding compliance with the Building Code and the issue of a code compliance certificate for building work associated with a new dwelling

4 Valley Heights Lane, Auckland

Summary

This determination considers the decision to issue a code compliance certificate for a building consent to construct a dwelling. The determination also considers compliance with the Building Code of a deck, surface water drainage system in the vicinity of that deck and the foundation walls with Clauses B1 Structure, B2 Durability, E1 Surface Water and E2 External Moisture.



The legislation discussed in this determination is contained in Appendix A. In this determination, unless otherwise stated, references to “sections” are to sections of the Building Act 2004 (“the Act”) and references to “clauses” are to clauses in Schedule 1 (“the Building Code”) of the Building Regulations 1992.

The Act and the Building Code are available at www.legislation.govt.nz. Information about the legislation, as well as past determinations, compliance documents (eg, Acceptable Solutions) and guidance issued by the Ministry, is available at www.building.govt.nz.

1. The matter to be determined

- 1.1. This is a determination made under due authorisation by me, Peta Hird, for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment (“the Ministry”).¹
- 1.2. The parties to the determination are:
 - 1.2.1. T McCole (“the owner”) who owns the property and applied for the determination.
 - 1.2.2. Auckland Council, carrying out its duties as a building consent authority.
- 1.3. I consider A Kumar (“the builder”) to be a person with an interest in this determination.
- 1.4. This determination arises from the owner’s view that aspects of an as-built deck (“the deck”), surface water drainage under the deck (“the deck drainage”) and tanking² to foundation walls (“the tanking”) do not comply with the Building Code. In the owner’s view, the building work is not in accordance with the approved building consent (B/2013/15179) and the authority was incorrect to issue a code compliance certificate.
- 1.5. The matters to be determined³ are:
 - 1.5.1. whether the deck complies with Clauses B1 *Structure* and B2 *Durability* in respect of the items identified by the owner (described at 3.13 and 3.14)
 - 1.5.2. whether the surface water drainage in the vicinity of the deck complies with Clause E1 *Surface water*

¹ The Building Act 2004, section 185(1)(a) provides the Chief Executive of the Ministry with the power to make determinations.

² “tanking” is a term used for describing waterproofing systems used to prevent or minimise water and water vapour penetration into buildings. Tanking is commonly applied against concrete in contact with the ground.

³ Under section 177, subsections (1)(a), (1)(b) and (2)(d).

- 1.5.3. whether the foundation walls in the vicinity of the timber deck comply with Clause E2 *External moisture*
- 1.5.4. the authority's decision to issue the code compliance certificate for building consent no. B/2013/15179.
- 1.6. I have not considered any other aspects of Building Code compliance outside of those listed above. I note specifically the barrier on the retaining wall at the rear of site was not included in the matters for determination and if necessary, should be considered further by parties in terms of any safety risk.

2. The building work and background

- 2.1. On 20 February 2014 the authority issued the building consent for construction of the dwelling. The dwelling is located on a sloping site and is two-storied to the southwest.

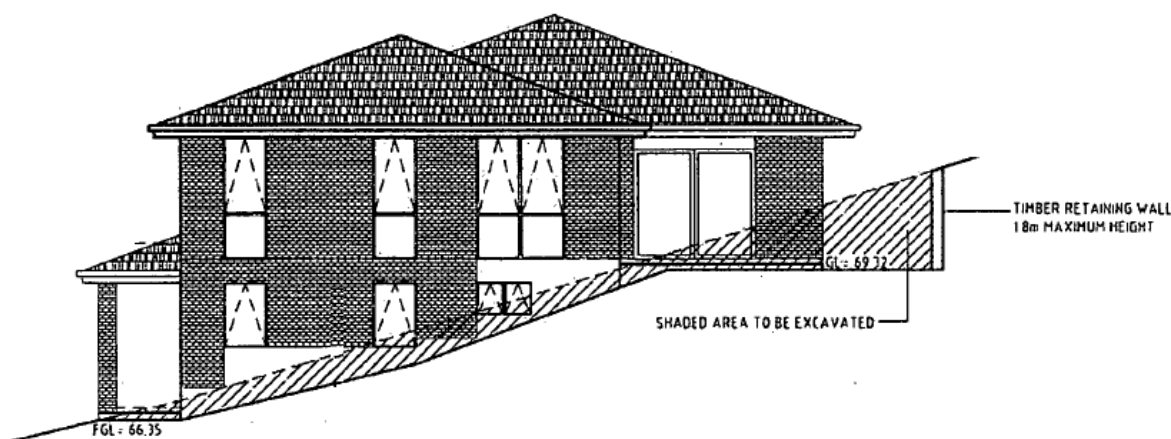


Figure 1: East elevation

- 2.2. Approximately one quarter of the upper level is founded on a slab foundation which is supported by a perimeter footing and a concrete block retaining wall (“the block wall”) which can be seen in Figures 2 and 3. The block walls have a waterproofing tanking applied below ground level and sub-soil drainage at the base of the wall. The remaining upper-level floor structure consists of a timber joist and steel beam mid-floor generally following the outline of the lower level.
- 2.3. The approved building consent drawings specified a “deck” on the upper-level floor plan to the northeast of the dwelling, accessed off the dining room. But the floor framing and foundation plan and cross section ‘A’ specified a 100mm thick concrete slab (“the patio”) supported by what appears to be a block foundation edge.

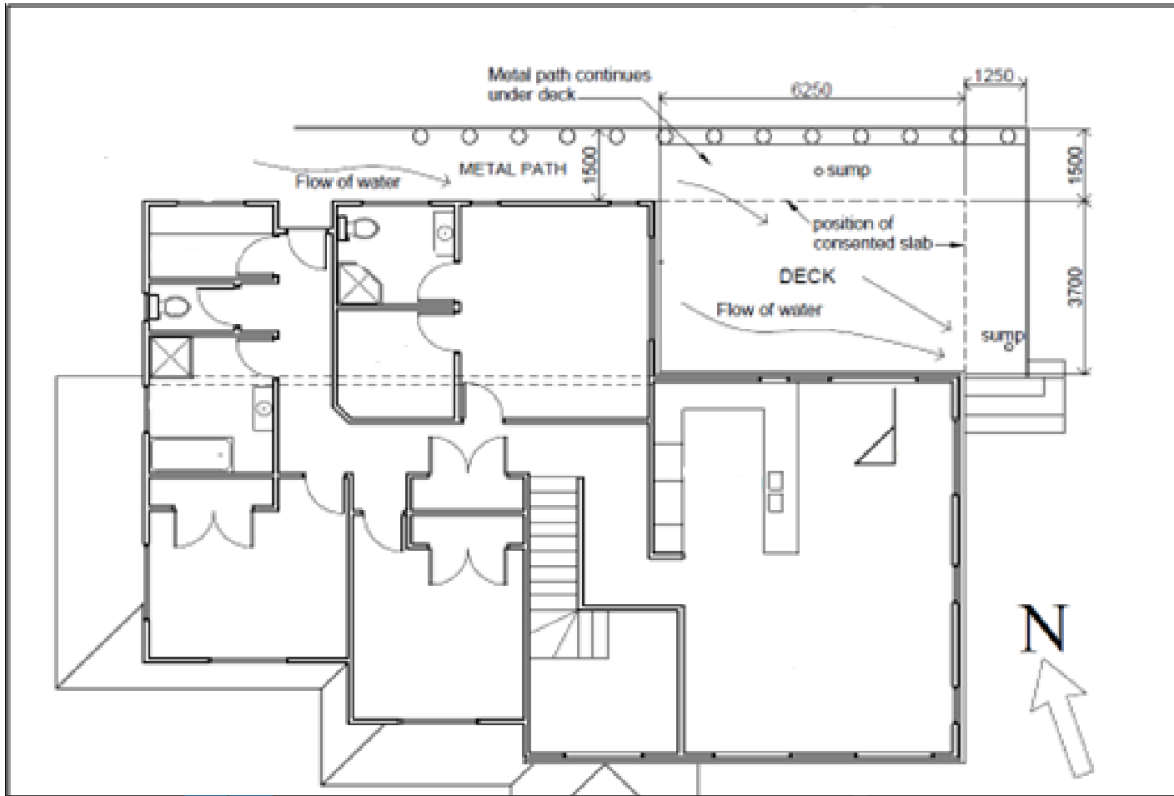


Figure 2: Upper level floor plan showing location of the deck

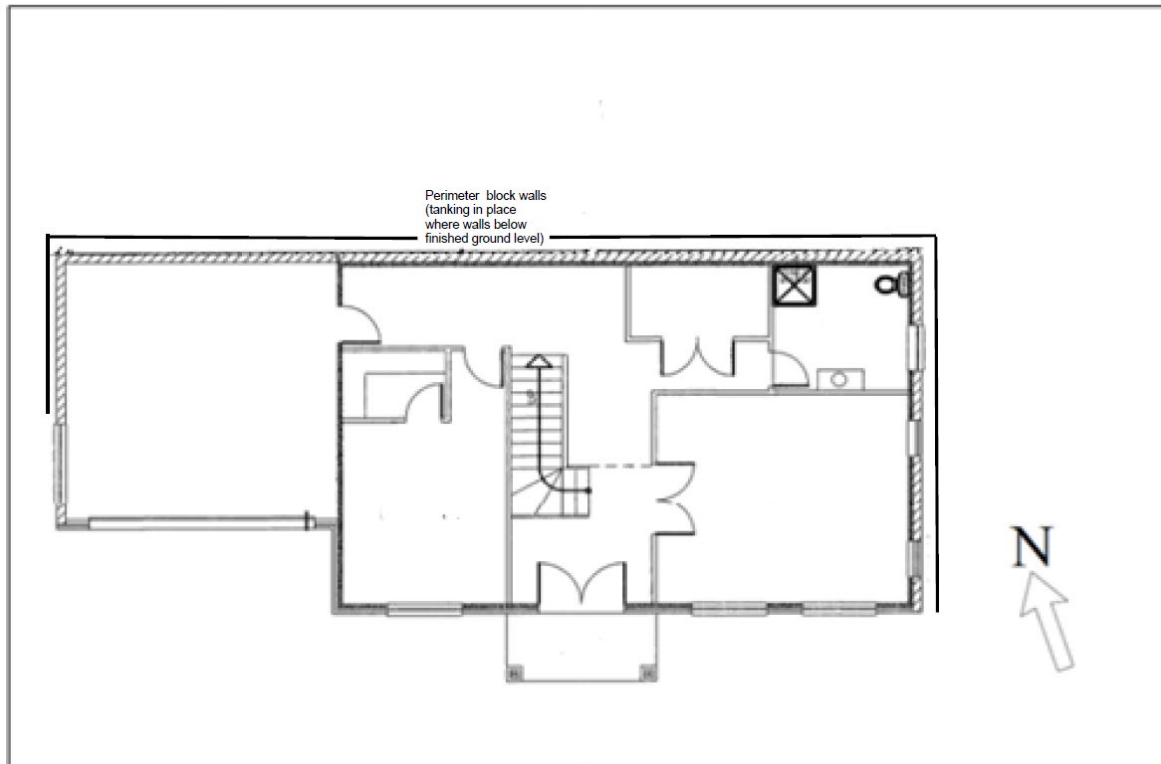


Figure 3: Lower level showing block foundation walls

- 2.4. During construction a 6.25m x 3.70m timber deck was built in place of the patio (see Figure 2 'position of consented slab'). The timber deck was later extended over the metal path, and now measures approximately 7.50m x 5.20m. Timber stairs off the southeast of the deck follow the contour of the ground.
- 2.5. The timber deck is constructed of:
- 2.5.1. 140mm x 45mm H3.2 pinus radiata deck joists @ 450mm (approximate) centres and spanning 1.8m maximum, with nail fixings.
 - 2.5.2. 2/140mm x 45mm H4 pinus radiata bearers supported on 125mm x 125mm H5 timber piles (assumed to be encased in concrete) at various centres not exceeding 1.93m.
- 2.6. The ground level under the deck slopes gently from west to east with clearances under the deck ranging between 370mm-400mm from ground level to the top of the joists.
- 2.7. The surface water drainage system in the vicinity of the deck consists of downpipes, pipework, drains and a sump (Figure 2).⁴ The surface water appears to discharge to the ground under and around the deck area and travels toward the east of the site and down that side of the building.
- 2.8. A summary of the inspections recorded an inspection dated 22 September 2014 as "pass" for "tanking / deck framing.
- 2.9. On 17 November 2014 the authority issued a code compliance certificate.
- 2.10. In the summer of 2017, the deck was extended out over a metal path.
- 2.11. A pre-purchase inspection in 2017 noted some ponding of water on the deck. However the owner advised that since 2017 any ponding that appeared was minimal and dissipated quickly with no nuisance occurring.
- 2.12. On 12 July 2019 the property was subjected to a significant rainfall event that resulted in water ponding on the deck. An investigation into why the ponding on the deck was not dissipating 'easily' revealed what the owner considers to be building work that does not comply with the Building Code (see submissions).
- 2.13. In response to a letter from the owner's agent, the builder wrote on 6 November 2019 stating (in summary):
- 2.13.1. the timber deck was "not consented" and no amendment was submitted for this change

⁴ The sump appears to have been impeded by landscaping and the deck and does not function as intended.

2.13.2. there has been considerable modification to the timber deck and the metal path covering the drainage sump since the code compliance certificate was issued

2.13.3. the original drainage design will be reviewed to ensure it is fit for purpose.

3. Summary of submissions⁵

The owner

Drainage

- 3.1. In 2017 ponding on the deck was noted but it could not be proven whether or not there was ponding below the deck. However, since 2017 ponding that appeared dissipated quickly and was minimal.
- 3.2. A significant rainfall event on 12 July 2019 resulted in ponding on the deck in which the water did not dissipate 'easily'.
- 3.3. Surface water under the deck flows toward the building and to the northeast corner of the dwelling and freely down the hill; trenches have since been dug into the ground to assist the flow of surface water.
- 3.4. Removal of surface water under the deck was 'never catered for.' No attempt was made when the dwelling was constructed to have surface water which collects under the deck fall away from the dwelling and be directed to a drainage outlet. Surface water should be draining to an approved outlet.
- 3.5. 'The sloping of the ground [is] directing water under the deck towards the basement wall'. The ground under the deck 'is permeable'. Instead of the surface water being drained away from the building, the ground is absorbing it, moving it toward the perimeter walls. This is applying pressure to the tanking on the perimeter walls.
- 3.6. The drainage should have been redesigned and altered to make it 'fit for purpose' to drain water from beneath the deck, and the sump in the path should have been moved under the deck to collect surface water.
- 3.7. A site visit after the rainfall event from a registered drainlayer showed a missing sump and found that the first sump was in place but unable to be used due to how it is situated. Some channels were dug into the ground at this time as a precautionary measure.

⁵ The builder made no submissions.

Tanking of perimeter

- 3.8. Tanking is missing from some of the perimeter walls. This area supports a habitable space and is susceptible to hydrostatic pressure and slab edge dampness which can cause dampness to the interior by capillary action up through the blocks and concrete floor.
- 3.9. During flooding and storm events indicative moisture readings were normal and gave no reason for concern. However, the applicant is concerned about problems that may arise as a result of dampness penetration.
- 3.10. The issue is exacerbated by the poor surface water drainage under the deck.
- 3.11. Destructive investigation of the perimeter area has not been undertaken and is not warranted.
- 3.12. The compliance of the tanking cannot be proven without excavation and micron testing and 'E2 cannot be certified without investigation'. '[W]e have undertaken testing on the interior of the basement walls but that was with a capacitance metre- the results are indicative only. Destructive testing would have to be undertaken to prove anything'.

Deck

- 3.13. The timber deck does not comply with the Building Code as required by section 17 of the Act. There is insufficient clearance under the deck bearers as per section 6.4.1.1(c) of NZS 3604 (2011) *Timber-framed buildings*, and the 'way the piles have been sawn off near the ground and not sealed on the ends will compromise their durability'.
- 3.14. The owner also submitted:
 - 3.14.1. There is no mid-span blocking to the timber joists.
 - 3.14.2. The mechanical fixings between timber piles and bearers are inadequate.
 - 3.14.3. There is a lack of gaps between deck boards.

The code compliance certificate

- 3.15. In regard to the authority's decision to issue the code compliance certificate:
 - 3.15.1. The building work should have been carried out in accordance with the approved plans but was not, and the code compliance certificate should not have been issued.
 - 3.15.2. In the event of inconsistency between the plans and any supplementary documents, "the plans should prevail".

3.15.3. The plans and documents provided in the building consent show the outline of the patio/deck, but the deck is significantly different in material and 'structural purpose' to the proposed patio.

3.15.4. As a result of the work not being done to the approved plans there is no compliant drainage to stop water from reaching the lower basement areas and no consideration of the damage that could be caused.

3.15.5. The authority did not follow appropriate processes under the Act in addressing changes in construction. The authority did query some aspects of this patio/deck and therefore the authority included it in the scope of the building consent review.

The authority

3.16. The authority advised that the change from a concrete patio to a timber deck was approved by the previous owners, but it was not subject to a formal amendment or recorded as a minor variation.

3.17. The authority submitted that the deck, whether concrete or timber, is exempt building work under Schedule 1, and so the change in building material is low risk and does not materially affect compliance with the Building Code.

3.18. The deck framing was inspected by the authority, with an inspection record noting "deck framing approved". The authority stated that "as a rule [it] does not inspect exempt building work". The authority acknowledged it would have been beneficial to record the change as a minor variation and, although there is no prescribed form as to how this is achieved, suggested:

An extended note on the inspection report other than "deck framing approved" may have been more appropriate, however it points to [the authority] acknowledging the deck construction, which at that time was within the parameters of the consented concrete deck/patio area.

3.19. The building work extending the deck over the path was completed after the final inspection. There was no reason to return to site after that final inspection prior to the issue of a code compliance certificate more than three months.

3.20. The significant rainfall event in July 2019 that triggered an investigation was not related to the deck construction but caused by building activity above this property which resulted in the contractors blocking surface water from entering the public storm water system.

4. Discussion

- 4.1. Section 17 of the Act provides “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.”.
- 4.2. I will consider whether the building work that is the subject of this determination complies with Building Code Clauses B1 *Structure*, B2 *Durability*, E1 *Surface Water* and E2 *External Moisture*.
- 4.3. In terms of section 94(1)(a) of the Act, an authority can only issue a code compliance certificate if it is satisfied, on reasonable grounds, that the building work complies with the building consent. This includes any amendments or minor variations made to the building consent.
- 4.4. In order to consider whether there were grounds to issue the code compliance certificate, I will identify whether the identified building work was carried out in accordance with the building consent.
- 4.5. If I identify building work that was not carried out in accordance with the building consent, in considering whether to confirm, reverse or modify the decision to issue the code compliance certificate,⁶ I will consider whether any of the building work that is not in accordance with the building consent complies with the Building Code.

Was the deck (or patio) part of the building consent?

- 4.6. Under section 41(1) and 42A, a building consent is not required for any building work described in Schedule 1. Clause 24 of Schedule 1 provides for:

24. Decks, platforms, bridges, boardwalks, etc

Building work in connection with a deck, platform, bridge, boardwalk, or the like from which it is not possible to fall more than 1.5 metres even if it collapses.

- 4.7. It is not possible to fall more than 1.5 metres from the as-built deck, and therefore under clause 24 of Schedule 1 it is building work for which a building consent is not required.
- 4.8. However, it does not follow that building work included in an application for a building consent is not in the scope of that building consent simply on the basis that it would otherwise be exempt under Schedule 1.
- 4.9. It is not uncommon for building work which is exempt from requiring a building consent to be shown on drawings submitted to an authority as part of an application for building consent. The inclusion of exempt work in drawings may be

⁶ Remedies provided for under section 188(1)(a).

indicative only, showing the location of the exempt work in relation to the consented works. However, in some cases a property owner may choose to include that work in the scope of building work for which consent is being sought. When work that would otherwise be exempt is included in the scope of works approved under a building consent, it follows that it is within the scope of work certified through the issue of a code compliance certificate.

- 4.10. The building consent documentation is ambiguous with regard to the construction of a deck or patio, so I have considered what other evidence is available.
- 4.11. The authority's summary of inspections recorded that the deck framing had been "passed" during an inspection. I take the reference to it having "passed" to mean that it had been inspected for compliance with the building consent and Building Code by an inspector. This indicates that the authority was at the least aware of the construction of the timber deck.
- 4.12. The authority has submitted "as a rule [the authority] does not inspect exempt building work" but also acknowledged it would have been beneficial to record the change as a minor variation.⁷
- 4.13. It is apparent the authority was aware of the construction of the deck and while the authority did not keep records of a formal decision, I am of the view that this change was approved by way of a minor variation during the authority's inspections.
- 4.14. In conclusion, the deck as built at the time of the final inspection was approved by the authority as a minor variation and is within the scope of works under the building consent. Therefore the deck is included in work for which the code compliance certificate was issued.

Building Code Compliance of the deck

- 4.15. The owner is of the view that the deck does not comply with clauses B1 *Structure* and B2 *Durability* because the piles and bearers are not clear of the ground, mechanical fixings and lateral support to the deck joists are inadequate, and the decking lacks gaps.
- 4.16. NZS3604:2011 is cited in B1/AS1⁸ and B2/AS1⁹ as an Acceptable Solution for demonstrating compliance with clauses B1 and B2. NZS 3602:2003 and NZS 3640:2003 also are used alongside NZS3604 in B2/AS1. Under section 22(2), a

⁷ A minor variation is a minor modification, addition, or variation to a building consent that does not deviate significantly from the plans and specifications to which the building consent relates (as defined in the Building (Minor Variation) Regulations 2009 current at the time).

⁸ Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure (first edition, amendment 12, effective from 14 February 2014 until 31 May 2016).

⁹ Acceptable Solution B2/AS1 Durability for New Zealand Building Code Clause B2 (second edition, amendment 7, effective from 4 April 2011 until 14 August 2014).

person who complies with an Acceptable Solution must, for the purposes of the Act, be treated as having complied with the provisions of the Building Code to which that Acceptable Solution relates.

- 4.17. I will first consider each of the features and whether they have been constructed in accordance with NZS3604. If not in accordance with the Standard, I will go on to consider whether the features of the deck achieve compliance with the relevant performance requirements of the Building Code as an alternative solution.

Piles and bearers

- 4.18. The owner is of the view that the timber deck piles and deck bearers have not been constructed in accordance with NZS 3604 because they are not clear of the ground.

- 4.19. Ground clearance (or more generally the 'end use environment') and timber treatment are both relevant factors in the durability of timber elements. For timber and wood-based building components, section 2.3.1 of NZS 3604 references NZS 3602:¹⁰

2.3.1 The timber species, preservative treatment, in-service moisture range and their end use environment shall comply with NZS 3602.

- 4.20. NZS 3602 is also cited in Acceptable Solution B2/AS1 paragraph 3.2.1(a)¹¹ for meeting durability requirements for timber and wood-based building elements.
- 4.21. Table 1A of NZS 3602 lists (among others) the appropriate preservative treatment for timber members in contact with the ground, and Table 1B lists preservative treatment for members exposed to exterior weather conditions and dampness but not in ground contact.
- 4.22. Based on the owner's concern the bearers are in contact with the ground, I am of the view in this situation the bearers are comparable to the horizontal members of timber retaining walls in Table 1A.7 of the Standard because horizontal members of timber retaining walls are often in contact with ground. Table 1A.7 of the Standard requires horizontal members of timber retaining walls to have a level of treatment of H4.¹² In this instance the bearers appear to be treated to H4 and I am of the view the treatment to the bearers is adequate in the circumstances.
- 4.23. Turning now to the piles: section 7.4 of NZS 3604 prescribes standards for timber decks. Section 7.4.1.2(d) notes 'Piles and footings shall be as given in section 6'. Section 6.4.1 concerns the height of piles, and section 6.4.1.1(c) states:

(c) No timber pile shall be cut off closer than 300 mm to finished ground level. This distance may be reduced to 150 mm where a bituminous damp-proof course, or other

¹⁰ New Zealand Standard NZS 3602:2003 *Timber and Wood-based Products for Use in Building*.

¹¹ Modified by B2/AS1 paragraph 3.22.

¹² Note (2) from NZS 3602 Table 1 states "Throughout table 1, timber treated to a higher level than the minimum satisfies the minimum requirements."

suitable impervious material is placed between the pile and framing timbers and overlaps these timbers by at least 6 mm...

- 4.24. I agree with the owner the timber deck piles are not in accordance with section 6.4.1.1(c) of NZS 3604. However, compliance with an Acceptable Solution is only one means of achieving compliance with the Building Code.
- 4.25. Although the timber pile is closer than 300mm to the ground level, the bearer is treated to a higher level than would usually be the case for bearers exposed to exterior weather conditions that are not in contact with the ground (refer Table 1B.3 of NZS 3602). I consider this higher level of treatment mitigates the fact that the piles are closer to the ground than is provided for in NZS 3604.
- 4.26. In addition, I have not received any information that indicates there is moisture damage or decay to the timber.
- 4.27. I consider the level of treatment of the timber bearers adequate in the circumstances, both in terms of the bearers in contact with the ground and the timber pile height. I therefore conclude the timber deck complies with Clause B2 of the Building Code insofar as it relates to Clause B1 with regard to the height of the piles and the bearers in contact with the ground.

Mid-span blocking

- 4.28. The owner is of the view there is “inadequate lateral support” to the deck joists.¹³ Section 7.4.1.2(b) of NZS 3604 states: “Joists shall be as in table 7.1(b)”. Table 7.1(b) provides maximum spans of joists (including 2kPa and wet in service - i.e. deck joists) depending on their dimensions and spacing. Apart from this, there are no other provisions in Section 7.4 of NZS 3604 that require lateral support to deck joists.
- 4.29. For 140 x 45 floor joists at 450mm centres, NZS 3604 allows for a span of up to 2.35m. In this case the joists are at approximately 450mm centres, but the span is only 1.8m; meaning mid-span blocking is not required. Construction of the deck is in accordance with Table 71(b) of NZS 3604. I therefore conclude that the timber deck complies with Clause B1 of the Building Code by way of NZS 3604:2011.

The lack of gaps in the decking

- 4.30. There are no specific provisions in NZS 3604 or E2/AS1 which cover gaps in timber decking other than provision for clearances from a building.
- 4.31. I consider the lack of gaps in the decking in this situation does not equate to a non-compliance with the Building Code.

¹³ The owner’s reference to lateral support may be a reference to the provision in section 7 of NZS 3604:2011 for floor joists, in particular with section 7.1.2 which covers the lateral support of floor joists. Section 7.1.2 is not referenced in section 7.4 in respect of timber decks.

- 4.32. I have assumed the concern of the owner is related to the ponding of the water on the deck causing deterioration that would impact the expected B2 Durability period of the timber decking boards of 5 years.¹⁴
- 4.33. I am of the view the boards even when subject to the ponding shown in the photographs provided will not reduce the durability of the decking below the required minimum 5 years as required by B2.3.1(c).

The mechanical fixings

- 4.34. The owner also considers there are inadequate mechanical fixings between the deck piles & deck bearers.
- 4.35. B1/AS1 cites NZS 3604 for timber structures. Section 6.5.2(b) of NZS 3604 covers fixings to timber piles, stating:

b) For timber piles use 2 / 4.9 mm wire dogs together with 2 / 100 x 3.75 nails or 4 / 100 x 3.75 nails, skew driven into the piles...

- 4.36. Based on photographs provided by the owner, the nail fixings comply with NZS 3604 and therefore with B1/AS1. I therefore conclude that the deck is compliant with Clause B1 in regard the mechanical fixings.

The surface water drainage

- 4.37. I agree with the owners' comments that building work was not carried out in accordance with the building consent, specifically the surface water is discharging to the ground in and around the vicinity of the deck rather than being taken away from the area via the drains.
- 4.38. Notwithstanding this, to inform my decision on whether to confirm or reverse the code compliance certificate I will consider whether the work complies with the Building Code.
- 4.39. The requirements for surface water are set out in Clause E1 of the Building Code, and the relevant performance provisions are:

Performance

E1.3.1 Except as otherwise required under the Resource Management Act 1991 for the protection of other property, *surface water*, resulting from an event having a 10% probability of occurring annually and which is collected or concentrated by *buildings* or *sitework*, shall be disposed of in a way that avoids the likelihood of damage or nuisance to *other property*.

¹⁴ Clause B2.3.1(c).

E1.3.2 *Surface water*, resulting from [an event] having a 2% probability of occurring annually, shall not enter *buildings*.

E1.3.3 Drainage systems for the disposal of surface water shall be constructed to:

- (a) convey surface water to an appropriate outfall using gravity flow where possible...
- (b) ...

4.40. Surface Water is defined in Clause A2 of the Building Code:

Surface water All naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a drain, stream, river, lake or sea.

4.41. The owner's concern appears to be the water ponding under the deck, falling back toward the dwelling and saturating the soils, all of which the owner considers could result in moisture ingress at the basement level. I note that moisture ingress of sub-surface water is a matter of compliance with Clause E2 rather than Clause E1. I consider compliance with Clause E2 later in relation to the perimeter foundation walls.

4.42. The owner has also raised the issue of the sump and downpipe not being connected to an "approved outfall". Clause E1 does not use this term, it instead talks about and "appropriate outfall". Clause A1 defines outfall as:

that part of the disposal system receiving surface water or foul water from the *drainage system*. ... For *surface water*, the *outfall* may include a natural water course, kerb and channel, or soakage system

4.43. An appropriate outfall can include the ground as a soakage system as long as it doesn't create the risk of erosion or scour to the land. I consider the test of whether surface water is reaching an appropriate outfall means it is not entering the building, which would contravene E1.3.2, or in the case of other property causing nuisance or damage that would contravene E1.3.1.

4.44. I have not been provided evidence that any surface water ponding under the deck or flowing from this area in a 2% event is entering the building itself at ground level. And I have not been provided evidence of surface water flows to other property that would cause a nuisance or damage, nor any information or description of a scenario in which this could occur.

4.45. I am of the view that the permeable ground below the deck in this case is an appropriate outfall in accordance with clauses E1.3.1 and E1.3.2 because surface water is not entering the building nor causing a nuisance or hazard to other property.

4.46. I note that many owners would have concerns about ponding of surface water on their property. However, the objective of Clause E1 concerns injury or illness of people and protection of buildings and other property, not the amenity of the owner.

4.47. I agree with the owner that the surface water drainage system was not completed in accordance with the building consent, and this would have been grounds on which to refuse to issue the code compliance certificate. However, I have determined that the building work complies with Clause E1 and that finding is appropriate grounds to confirm rather than reverse the issue of the code compliance certificate.

Tanking to the perimeter walls

4.48. The owner raised concerns that the lack of tanking to the foundation walls does not comply with Clause E2 and will allow the ingress of external moisture.

4.49. These external walls are required to comply with Clauses E2.3.2 and E2.3.3:

E2.3.2 Roofs and exterior walls must prevent the penetration of water that could cause undue dampness, damage to building elements, or both.

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.

4.50. The terms 'undue dampness' and 'damage' are not defined in the Building Act or Building Code. Previous Determination 2014/062¹⁵ considered the term 'undue dampness' to be "a level of moisture that has, or will, result in detrimental effects on building elements, or the building occupants, or both." It also found that 'damage' such as decay in framing, did not need to have occurred in order to satisfy the test of 'undue dampness'.

4.51. The terms 'undue dampness' and 'damage' as it relates to Clause E2, were also considered by the High Court in *Minister of Education v H Construction North Island Limited (formerly Hawkins Construction North Island Limited)* (2018)¹⁶ as follows:

[116] "... cl E2.3.2 provides roofs and exterior walls must prevent the penetration of water that "could" cause damage to building elements. Anticipation and prohibition of potential damage makes clear actual damage is not required for a breach of the Code..."

...

[118] It follows the Code does not contemplate "reasonable" damage in consequence of water ingress. Rather, it seeks to prevent damage.

¹⁵ Determination 2014/062 Regarding the refusal to issue a code compliance certificate and the issue of a notice to fix for an 11-year-old house with mixed claddings at 20 Ian Sage Avenue, Torbay, Auckland, 17 December 2012.

¹⁶ CIV-2013-404-001504 [2018] NZHC 871, paragraphs 61 to 63, and 113 to 121.

4.52. I also take account of Clause B2 Durability and consider the performance of the materials that make up the perimeter wall should be durable to satisfy 50 years as required by B2.3.1(a):

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) the life of the building, being not less than 50 years, if:

(i) those building elements (including floors, walls, and fixings) provide structural stability to the building, or

(ii) those building elements are difficult to access or replace, or

(iii) failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building.

4.53. The primary concern of the owner is the water entering the lower-level habitable spaces either through the perimeter footings, or via movement of the water down into the ground adjacent to the lower-level perimeter walls and then through these walls, causing damage or undue dampness to the building elements in the lower area.

4.54. There is limited evidence of what is occurring beneath the ground level, and I agree with the owner that confirmation of the performance of the wall would require investigation. I consider excavation of the soil in the area of the lower-level perimeter walls and/or investigation by removing sections of the wall to be able to view the condition of the building materials would enable more certainty of performance.

4.55. I am of the view that tanking of the perimeter footings of the upper-level walls (as opposed to the lower-level perimeter walls) is not required. Any water at the base of the upper-level perimeter walls would dry out or be absorbed into the ground before it would be transferred through the perimeter footings or concrete floor via capillary action at a volume necessary to cause undue dampness or damage.

4.56. The performance of the lower-level walls is reliant on the concrete block wall, its waterproofing and any subsoil drainage keeping out a volume of water that would cause 'undue dampness and damage'.

4.57. Without the evidence, which could be provided by excavation of the area and/or further invasive investigations into the wall, I have to rely on the evidence available of the in-service history of performance of the building and draw conclusions based on this current level of performance to assess continuing performance.

4.58. The limited moisture testing of the interior basement walls has not recorded consistently high moisture that would be indicative to me of the volume of water

required to cause undue dampness or damage. I have not been presented with evidence of damage to the materials that make up the interior basement wall.

- 4.59. In lieu of these indications of failure and on the basis these walls have at least some tanking membrane and sub-soil drainage, I consider these walls will continue to prevent the penetration or transmission of external moisture to the extent required by clauses E2.3.2 and E2.3.3 and for a period of no less than 50 years from the date of the code compliance certificate issue.

The code compliance certificate

- 4.60. I have found that some elements of the building work were not constructed in accordance with the building consent. While this would have been grounds to refuse to issue a code compliance certificate, I have also determined that the building work subject to this determination complies with the Building Code. As a result, I do not find grounds to reverse the code compliance certificate.

5. Decision

- 5.1. In accordance with section 188 of the Building Act 2004, I determine that:
- 5.1.1. the timber piles to the deck and the deck members comply with clauses B1 and B2
 - 5.1.2. the surface water drainage in the vicinity of the deck complies with Clause E1
 - 5.1.3. the foundation walls identified by the owner comply with Clause E2
 - 5.1.4. there were grounds to refuse to issue the code compliance certificate because the building work was carried out not in accordance with the building consent, but as I have found that the building work complies with the Building Code I confirm the issue of the code compliance certificate for B/2013/15179.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 26 September 2024.

Peta Hird

Lead Determinations Specialist

Appendix A: Building Code Clauses B1 and B2

B1 Structure

OBJECTIVE

B1.1 The objective of this provision is to:

- (a) Safeguard people from injury caused by structural failure,
- (b) Safeguard people from loss of amenity caused by structural behaviour, and
- (c) Protect other property from physical damage caused by structural failure.

FUNCTIONAL REQUIREMENT

B1.2 Buildings, building elements and sitework shall withstand the combination of loads that they are likely to experience during construction or alteration and throughout their lives.

PERFORMANCE

B1.3.1 Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.

B1.3.2 Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use.

B1.3.3 Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including:

- (a) Self-weight,
- (b) Imposed gravity loads arising from use,
- (c) Temperature,
- (d) Earth pressure,
- (e) Water and other liquids,
- (f) Earthquake,
- (g) Snow,
- (h) Wind,
- (i) Fire,
- (j) Impact,
- (k) Explosion,
- (l) Reversing or fluctuating effects,
- (m) Differential movement,
- (n) Vegetation,

- (o) Adverse effects due to insufficient separation from other buildings,
- (p) Influence of equipment, services, non-structural elements and contents,
- (q) Time dependent effects including creep and shrinkage, and
- (r) Removal of support.

B1.3.4 Due allowance shall be made for:

- (a) The consequences of failure,
- (b) The intended use of the building,
- (c) Effects of uncertainties resulting from construction activities, or the sequence in which construction activities occur,
- (d) Variation in the properties of materials and the characteristics of the site, and (e) Accuracy limitations inherent in the methods used to predict the stability of buildings

B1.3.5 ...

B2 Durability

OBJECTIVE

B2.1 The objective of this provision is to ensure that a building will throughout its life continue to satisfy the other objectives of this code.

FUNCTIONAL REQUIREMENT

B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.

PERFORMANCE

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) The life of the building, being not less than 50 years, if:
 - (i) Those building elements (including floors, walls, and fixings) provide structural stability to the building, or
 - (ii) Those building elements are difficult to access or replace, or
 - (iii) Failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building
- (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.

B2.3.2 Individual building elements which are components of a building system and are difficult to access or replace must either:

- (a) All have the same durability, or
- (b) Be installed in a manner that permits the replacement of building elements of lesser durability without removing building elements that have greater durability and are not specifically designed for removal and replacement.