

Determination 2024/052

Regarding the issue of a dangerous building notice for a residential dwelling, water tank, deck and stairs

2 Welsh Hills Road, Swanson, Auckland

Summary

This determination concerns an authority's decision to issue a dangerous building notice for a dwelling, water tank, deck and stairs following a landslide at the property. The determination considers whether the buildings were dangerous, including whether unprotected falls from the lower deck and walkway makes those dangerous.



Figure 1. Part of landslide on the east side of the dwelling

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. EXC Adventure Trust Company Limited (“the owner”), who applied for this determination
 - 1.2.2. Auckland Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3. This determination arises from the authority’s decision to issue dangerous building notice NOT21612407, dated 14 April 2022, under section 124 (“the notice”).
- 1.4. The notice was issued following a landslide in August 2021, which occurred close to the north and east sides of the dwelling (refer to Figure 1²), a timber deck and associated access stairs, and a water tank.
- 1.5. The matter to be determined, under section 177(1)(b) and (3)(f), is the authority’s decision to issue the notice. In making this determination, I have considered whether any of the following structures were dangerous in terms of section 121:
 - 1.5.1. The dwelling – specifically the first-floor lounge, the upper deck along the east elevation, a ground level carport, and a concrete walkway along the east elevation.³
 - 1.5.2. The lower timber deck and access stair (“the lower deck”).
 - 1.5.3. The water tank.

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

² Figure 1 has been reproduced from a photograph taken by the authority dated 5 April 2022.

³ Although the notice does not refer directly to the first-floor lounge and carport, they are near to the area of the landslide and were referred to in the parties’ submissions and specialists’ reports.

Issues outside this determination

1.6. I have not considered:

- 1.6.1. the decision in October 1973 to issue building permit 25802 for construction of the dwelling, or any decisions regarding the placement of non-engineered fill for a building platform
- 1.6.2. the Building Code compliance of timber supports and associated fixings in the northeast corner of the upper deck (ie near the landslide), whether before or after the landslide occurred
- 1.6.3. the adequacy of temporary safety measures installed by the owner⁴
- 1.6.4. any proposed remedial work related to the landslide
- 1.6.5. the septic tank on the property, which was not included in the notice.

2. The building work

- 2.1. The property is in a rural location near Auckland. The two-storey dwelling sits on a level platform, and the ground generally slopes down to the east towards an area of dense vegetation (see Figure 2).

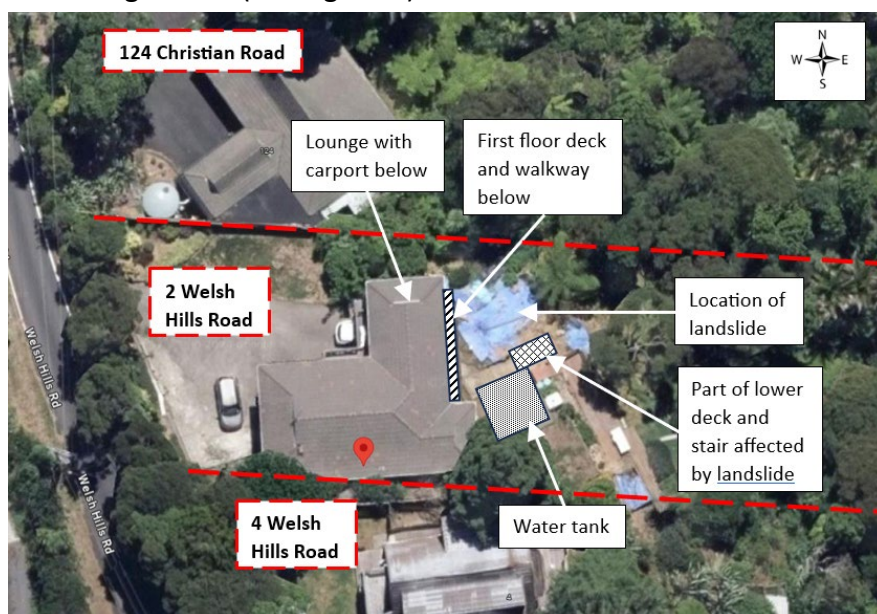


Figure 2. Aerial view (not to scale)⁵

⁴ The notice suggested the owner could consider installing “temporary hoardings to prevent people from approaching the decks and paths where it is possible to fall in excess of 1.0m”.

⁵ The hatched areas for the two decks and water tank have only been approximated from an aerial view (Google Maps accessed on 6 March 2024). The dashed red lines indicate the approximate location of the property boundaries.

- 2.2. The dwelling is predominantly supported by shallow reinforced concrete strip foundations. There is an upper-level lounge and a downstairs attached carport at the north end (near the landslide). An upper-level timber deck (“the upper deck”), accessed from the lounge, projects over the walkway on the east elevation. The deck is built mainly from timber and is supported in part by three steel posts (see Figure 2).
- 2.3. The carport has a concrete slab floor and three concrete blockwork walls. It is open on the west side. The walls are supported along the east and north sides by 5.7m-long reinforced concrete ground beams (“ground beams”) approximately 300mm square; a third ground beam runs along the open side.
- 2.4. The north ground beam is supported by two reinforced concrete piles (each around 3m long and 450mm in diameter) spaced approximately 4.1m apart. The piles are assumed to pass through approximately 1.7 metres of non-engineered “loose fill material” and to embed approximately 600mm into the mudstone base.
- 2.5. In addition to two of the ground beams, the foundation pile and pile cap in the northeast corner structurally support four building elements⁶:
 - 2.5.1. A vertical steel post, which in turn supports a horizontal timber beam (“the timber beam”) at the dwelling’s upper level.
 - 2.5.2. A diagonal timber strut, which supports the timber beam’s cantilevered end.
 - 2.5.3. A diagonal structural steel strut, which in turn supports the northeast corner of the upper deck.
 - 2.5.4. A diagonal laminated timber support connected to the northeast corner of the upper deck.
- 2.6. A vertical timber post supports the upper deck near its north end and connects with the walkway directly above the landslide. The post and upper deck are also supported by a diagonal timber post bolted to the carport floor where it extends beyond the east wall. It appears the west side of the deck is also supported (in part) by the carport east block wall.
- 2.7. Prior to the landslide there were several timber post and board retaining walls to the north and east of the dwelling that were backfilled to create flat grassed areas.
- 2.8. An in-ground concrete water tank (“the water tank”) measuring 4.4m x 4.0m x 2.5m high is located to the east of the dwelling and south of the landslide. Its roof is flush with the ground at the west end. I have not been able to ascertain whether the

⁶ In the absence of any detailed plans showing the construction of the dwelling at this location, I have relied on the structural engineer’s report dated 18 July 2022 and photographs provided by the parties.

water tank has any foundations. There is a timber post and board retaining wall between the water tank and the deck below (see Figure 3 below).

- 2.9. A timber stair near the water tank leads down to a timber deck supported on timber piles. The owner advised the piles were fixed into non-engineered fill which moved during the landslide. It appears that prior to the landslide there was a barrier to two sides of the landing at the north end of the deck.⁷



Figure 3. View of lower deck and landing

3. Background

- 3.1. On or about 30 August 2021, a heavy rainfall event caused a landslide near the east side of the dwelling.⁸
- 3.2. The owner engaged several geotechnical engineers (I refer to these engineers as “geotechnical engineer 1” etc), a structural engineer (“the structural engineer”), and a pre-purchase house inspection company (“the pre-purchase inspector”).⁹ They inspected the landslide and reported on its impact, as summarised below.

⁷ It appears a part of the timber barrier at the north end of the lower deck is no longer attached, but it is not clear if this was as a direct result of the landslide or something that occurred after the landslide.

⁸ Geotechnical engineer 2 refers to 150mm of rainfall during the event, whereas National Institute of Water & Atmospheric Research (NIWA) indicates it was a 201mm rainfall event based on data from the Whenuapai Airport weather station, which is greater than the maximum calculated by NIWA for a 1 in 50-year event.

⁹ The pre-purchase inspector is independent of and not associated with those regulatory inspection services provided by the authority. The person who carried out the site visit was not a licensed building practitioner, but the resulting report (“pre-purchase report”) was reviewed by a licenced building practitioner.

- 3.3. On 31 August 2021, geotechnical engineer 1 undertook a site visit and prepared a report dated 1 September 2021, which advised:
- 3.3.1. the authority had determined (from the property file) that the dwelling was supported on 3m-deep piles and was “not at imminent risk”
 - 3.3.2. the 30m-long landslide had travelled northwest-to-southeast, “with a head scarp approximately 3.0m in height” situated within one metre of the dwelling
 - 3.3.3. the contact between the natural soils and the overlying fill was estimated to be inclined at approximately 30° to 45°
 - 3.3.4. the landslide had “undermined the [lower deck] approximately 8m downslope (east)” of the dwelling (refer to Figures 2 and 3)
 - 3.3.5. the “failed material appears to be historical...fill, which may date back to the formation of the building platform”. The “most likely cause of failure is the heavy rain...saturating the weak non-engineered fill”.
 - 3.3.6. there “is evidence of 5mm displacement of masonry blocks in the carport corner, directly above the inferred pile, plus some ‘staircase’ cracking (stepped cracks following mortar lines between masonry blocks) nearby. These appear to be fresh cracks”
 - 3.3.7. there was “no imminent threat to the [dwelling] or occupants from [the] slip and the occupants may remain in the [dwelling]”. However, the owner was to remain vigilant of “further regression of the slip scarp or sustained heavy rainfall”.
 - 3.3.8. “[i]t is critical that the slip is remediated as soon as possible to reduce the risk of further movement and relaxing of the soils supporting [the dwelling and water tank]”.
- 3.4. Geotechnical engineer 2 undertook site inspections on the 9th and 22nd of September 2021.¹⁰ In a report dated 27 September 2021, geotechnical engineer 2 advised:
- 3.4.1. there were no obvious signs of movement or cracking in the dwelling and blockwork
 - 3.4.2. the landslide had undermined the lower deck foundations, but the failure was unlikely to be deep-seated

¹⁰ Investigations by Geotechnical Engineer 2 included drilling eight hand drilled auger holes, the results of which were provided in an appendix to the report, as well as several scala penetrometer tests, and global stability assessments.

- 3.4.3. the landslide had occurred in non-engineered fill at the top of the slope, which was saturated by the rainfall
- 3.4.4. the dwelling had leading edge piles embedded in the underlying mudstone, which mitigated the risk of damage
- 3.4.5. hand auger investigations showed that the site had an underlying natural substrata of stiff to very stiff materials, with an overlay of fill at the top of the slope (ie near the dwelling) to a maximum depth of 1.8m. Of note are the results from sections A-A and B-B (see Figure 4):
- (1) a combined depth of 1.8m of topsoil and fill material close to the northwest corner of the dwelling (HA1)¹¹
 - (2) a combined depth of 1.6m of topsoil and fill material close to the east side of the dwelling (HA2)
 - (3) depths of fill material between 400mm and 800mm to the east of the dwelling and lower deck (HA3, HA4 and HA6)
- 3.4.6. the topsoil and fill are unsuitable to support permanent structures due to the potential for differential settlement.
- 3.4.7. it appears that movement (ie soil creep) in the upper portions of the slope had been ongoing for some time.

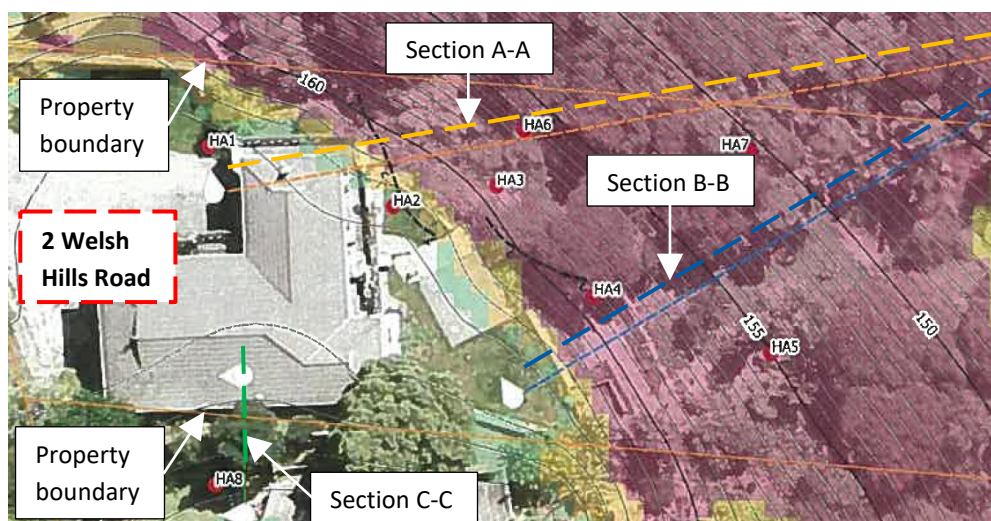


Figure 4. Hand auger locations and contour lines¹²

¹¹ The abbreviation “HA” refers to hand auger, and the numerals (1 to 8) refer to the designation given by geotechnical engineer 2 to each hand auger location. Refer to figure 4.

¹² Figure 4 has been reproduced from LTA21421 map number 1 revision 0 in Appendix A of the report prepared by Geotechnical Engineer 2 dated 27 September 2021. I note the location of HA8 shown in figure 4 doesn’t match the location shown section C-C on plan LTA21421/2 Revision A dated 15 September 2021.

Note: Red shading indicates a steep slope, yellow shading indicates a mid-grade slope, and green shading indicates relatively flat ground.

- 3.5. On 5 April 2022, the authority visited the site to investigate a landslide “affecting the property and potentially the building”. See figure 5.



Figure 5. Lower deck, access stair and water tank¹³

- 3.6. On 8 April 2022, the owner advised the authority that, in their view, geotechnical engineer 1’s report that the landslide had caused a 5mm displacement of masonry blocks in the corner of the carport was incorrect. The owner stated:

The carport walls are non-supporting of the northeastern corner of the [dwelling] above (living-room). They are essentially two walls at right angles to one another and the “crack” [the engineer] refers to is just the gap between them.

- 3.7. On 11 April 2022, in correspondence with the authority, geotechnical engineer 1 stated (in summary):
- 3.7.1. There was a “degree of risk involved [for] a family living in the house”.
 - 3.7.2. Monitoring of the landslide area was required eg “each time a 10year ARI or greater rain event occurs”.¹⁴
 - 3.7.3. Remedial works were required “as soon as practical”.

¹³ Figure 5 has been reproduced from a photograph taken by the authority on 5 April 2022.

¹⁴ Average Recurrence Interval (ARI) is the average time between floods of a certain size.

- 3.8. In correspondence with the authority between 11-14 April 2022, geotechnical engineer 2 advised (in summary):
- 3.8.1. The landslide material is “uncontrolled fill and stiff natural soils that have insufficient strength”.
 - 3.8.2. The slope “is [partially] stable during normal conditions, [but] under heavy rain and if allowed to saturate the ground will be unstable”.
 - 3.8.3. It is “critical the head scarp be retained so the existing foundations do not become undermined”.¹⁵
 - 3.8.4. The water tank “could [possibly] be safe if it is embedded down onto the hard or very stiff substrata”; this would require further investigation to confirm.
 - 3.8.5. The carport slab “is supported on leading edge piles, so movement of the upper fill will just undermine the foundations of the carport and will not [result in] a critical failure”.
 - 3.8.6. The slope is currently “being kept dry with covering” but this is “not a long term solution”. Further works are required (eg construction of retaining walls), and it is “advised that works are carried out as soon as possible”.
- 3.9. On 14 April 2022, the authority issued the dangerous building notice, which referred to “the building” being dangerous “for the purposes of section 121”, and stated this was because:

...Inspection of the property showed that a landslide had occurred, following an extensive rain event, on the eastern side of the existing dwelling. The landslide has removed the retaining wall structures to the east of the dwelling and foundation structures of the decks below the water tank on the eastern side of the dwelling and extends to the foundations of the water tank. The landslide has also extended to the underside of the foundations of the upper level deck on the north-eastern corner of the dwelling adjacent [to] the foundations for the dwelling.

The earth movement has left the decks in an unstable condition with an unprotected fall in excess of 1.0m from the deck and the stairs accessing the [lower] deck. There is also an unprotected fall in excess of 1.0m from the walkway under the deck on the eastern side of the dwelling at the head of the landslide.

The landslide is unsupported which may allow further movement of the soils which could affect the foundations of the dwelling, decks, walkway and the water tank. Should this occur it could pose a risk of injury to the occupants of this property [or] the adjoining properties or damage to other property.

¹⁵ It is not clear which foundations were being referred to, but it was possibly those supporting the dwelling rather than the lower deck or water tank.

[The authority] has also contacted the Geotechnical Engineers who have inspected the slip and have advised that the slip is likely to reactivate in adverse weather conditions and needs to be addressed promptly.

3.10. On about 28 April 2022, the owner erected temporary safety measures, including a metal stake and plastic net fence above the head scarp, plastic sheeting over the slip face, and warning signage.

3.11. Following a site inspection on 27 June 2022,¹⁶ the pre-purchase inspector reported (in summary):

Further investigations are recommended in the following areas:

Removal and upgrading of the deck is recommended.^[17]

Retaining at the back of the house is recommended.

The Concrete Carport is in good condition. It has minor cracks, which are expected for its age...

The corner pile showed no signs of dipping during the inspection after conducting a floor level test in the lounge above the carport nearest the slip, there were variations noted, however, this is expected and normal in older properties.

The dwelling is structurally sound and fit for purpose.

3.12. On 1 July 2022, geotechnical engineer 2 provided a second report, which repeated certain aspects of their earlier report¹⁸ and advised (in summary):

3.12.1. Section A-A (see Figure 4) is the critical section that should be addressed with remediation works.

3.12.2. Remediation works need to commence as soon as possible to avoid further movement of the upper fill.

3.12.3. Further movement of the upper fill will undermine the carport, although this is unlikely to cause a major failure since the slab and lounge above it are supported on leading edge piles driven into the underlying rock.

3.13. On 13 July 2022, a report by geotechnical engineer 3 summarised the findings of geotechnical engineers 1 and 2 and the pre-purchase inspector, and stated (in summary):

¹⁶ The report itself is undated, and I have only received certain extracts from it, specifically the “executive summary”. Further, I note the report clarified it had “no liability relating to the recent [landslide] at the back of the property”.

¹⁷ It is not clear from the report if the pre-purchase inspector was referring to the upper deck or lower deck.

¹⁸ Dated 27 September 2021.

...the area of [the landslide] is within the area of historical fill placed to form the building platform.

The [landslide] was triggered by an extreme weather event causing saturation of the [non-engineered] fill material and was not considered deep seated.

No obvious movement in the [dwelling's] foundation was noted...[and]...only very minor...cracking was observed to one corner of the building adjacent to the [landslide].

It is considered the piles have performed well protecting the building from damage caused by land instability. Therefore, we do not consider there is an imminent risk to the building and its occupants.

There is an agreement that the head scarp will need to be remediated...[as this] will retrogress over time, however it is considered that there is no imminent risk to the structure and [this] can be managed by regular observation and/or survey, after a heavy rainfall...

3.14. In a report dated 18 July 2022, the structural engineer described how the lounge and carport were constructed:

...the midfloor structure supporting the [lounge] to the north elevation is suspended in nature, with the load [being] supported by the north and south foundations...

Provided the building was constructed in accordance with the property file drawings and the necessary inspections were carried out at the time, we can expect the northern elevation of the building to be well founded on competent ground.

4. Submissions

The owner

4.1. During the determination process, the owner provided two further assessments from another chartered professional engineer ("the second structural engineer"). The first report stated (in summary):¹⁹

4.1.1. The northwest pile is tied to the northeast pile by the ground beam and is in more stable ground. This can reduce loads on the northeast pile by load-sharing.

4.1.2. "... any failure of the fill would consist of the fill beyond or near to the slope falling away, with the fill level surface retreating to a safe batter profile of

¹⁹ The assessment is dated 12 July 2024. A further submission from the owner dated 18 July 2024 included a copy of correspondence dated 15 July 2024 with the second structural engineer which included, "the piles appear to comply with the "design" and "a failure has not been demonstrated".

say 1:2". Some undermining of the eastern wall of the carport would occur as the result of the downslope movement of the fill layer.

- 4.1.3. The shear force on the northeast pile is significantly lower than calculated by the expert.
- 4.1.4. Subject to the underlying residual soils remaining stable, the pile shear and flexural capacities would not be exceeded by loads associated with movement of the fill layer.
- 4.2. The second report²⁰ and associated structural calculations considered the diagonal steel and timber supports at the far northeast corner of the upper deck; these elements are also fixed to the pile cap at the northeast corner of the carport. The second structural engineer considered the arrangement met the required serviceability limit state (SLS) and ultimate limit state (ULS). The same report referred to the reinforced concrete piles at the north end of the building's foundations being "socketed approximately 600mm into mudstone".
- 4.3. The owner submits (in summary):
 - 4.3.1. The dangerous building notice should not have been issued because the dwelling, upper deck, walkway, southern end of the lower deck, and water tank are not dangerous.
 - 4.3.2. There is no risk of injury in the ordinary course of events. The dwelling sits on flat land above and away from the slope.
 - 4.3.3. Most of the dwelling's footprint is on safe ground, apart from the 18 percent where the carport and lounge are located.
 - 4.3.4. There are similarities between this case and a 2019 High Court decision,²¹ for example the difficulty of determining whether damage to a building is the result of alleged landslide activity or natural aging/wear and tear, and whether a building founded on firm ground can be considered unsafe if it is situated near a landslide of poor fill material.

The landslide

- 4.3.5. The non-engineered fill landslide material does not support the dwelling and its movement has had no effect on it.
- 4.3.6. Prior to the landslide, timber retaining walls created level areas mid-slope and at the top of the slope alongside the walkway.²² Both areas were made from imported soil and finished to above original ground level. It was these

²⁰ Dated 17 July 2024, titled "2 Welsh Hills Rd, Swanson – Deck Supports".

²¹ *Goodier v The Earthquake Commission* [2019] NZHC 2176, Cull J.

²² See also paragraph 2.7.

walls and imported soil that failed, returning the slope to near its natural shape. There “is no evidence that material of the building platform is included in the slipped material” and the material that slipped was not “an integral part of the ground”.²³

- 4.3.7. The substrate of very hard and stiff material is of high strength and cohesion and has not moved following the original landslide. Geotechnical engineer 2 “did not report any failures of the underlying substrate”.
- 4.3.8. The landslide was caused by an extreme rain event on 30 August 2021 (the 1-in-50-year “Kumeu Rain Event”), which is not “in the ordinary course of events”. The rainfall caused saturation of the soil and sliding forces, soil creep was not a factor in the slip.
- 4.3.9. No further movement, regression, or erosion of the slip face (scarp) has occurred, despite several further significant rain events.²⁴
- 4.3.10. The scarp face may continue to erode over time, but this is likely to be very slow, can be monitored, and is not a threat to the dwelling or its occupants.
- 4.3.11. It is incorrect that “the primary factor posing an ongoing risk to the building” is the slope not meeting current factors of safety.

The lower deck

- 4.3.12. The lower end of the access stair and the deck landing have been compromised by the landslide, but most of the lower deck remains sound.
- 4.3.13. The lower landing, access stair stringers, and northern section of the deck require remediation (eg re-piling or demolishing).

The upper deck

- 4.3.14. In the northeast corner, the upper deck support post near the landslide needs remediation.
- 4.3.15. On the east side, the support post near the landslide (the fourth member) has been secured with a diagonal timber strut fixed to the carport slab.
- 4.3.16. A diagonal laminated timber member has subsequently been fixed to the northeast corner of the upper deck and the northeast pile.
- 4.3.17. The existing steel support post nearest the head scarp “is supported by a concrete pile estimated at 1.2 metres depth”.

²³ The owner referred to the definition of a “natural landslip” in section 2 ‘Interpretation’ of the Earthquake Commission Act 1993 (accessed on 20 June 2024 at www.legislation.govt.nz).

²⁴ For example, the owner referred to “extraordinary climatic” rainfall events in December 2021, March 2022, January 2023, and February 2023.

- 4.3.18. The diagonal steel and timber supports at the northeast corner of the upper deck, which are fixed to the pile cap at the northeast corner of the carport, adequately support the upper deck.

The water tank

- 4.3.19. Given its position relative to the landslide, the water tank is probably sited on hard ground (ie not fill material) and is not impacted by land instability. It has not moved during the landslide or since.

The dwelling

- 4.3.20. The carport's deep-piled foundations were built to a specific engineered design and are embedded in rock at the top of the slope. They show no signs of distress.
- 4.3.21. As noted in the second structural engineer's report, "[T]he north-western pile will provide additional support to the north-eastern pile" by virtue of the connecting "reinforced concrete ground beam."
- 4.3.22. The carport floor slab could be undermined if the scarp face regressed, but this would not affect the dwelling because the slab provides no structural support.
- 4.3.23. 'Staircase' cracking was present in the carport blockwork prior to the landslide.

The walkway

- 4.3.24. The walkway is unaffected by the landslide, and the "mere possibility that [it] could be undermined is not sufficient to deem it dangerous".

Unprotected fall

- 4.3.25. The scarp face presents a near-vertical 2m drop and fall hazard near the dwelling and needs to be remediated. It has been temporarily fenced off, with access locked and warning signs displayed.

Response to expert's report

- 4.3.26. Some aspects of the expert's report (see Section 5) are incorrect, including the assessment of the "lateral shear strength" for the northeast corner pile, and that an alleged crack near the top of the landslide was a contributing factor.

The authority

4.4. The authority submits (in summary):

- 4.4.1. The authority has considered the reports by the engineers and the pre-purchase inspector.
- 4.4.2. The landslide has resulted in the “decks, the water tank and other structures such as the carport under the lounge ... [being] damaged or ... at risk from damage if there is further soil creep”, and remediation of the scarp is necessary to prevent the foundations being undermined.
- 4.4.3. “[T]he likelihood of injury or death ... could be adequately mitigated until remediation of the scarp [is completed] by appropriately hoarding off the decks and access to the slip”, and the dwelling “could be temporarily occupied until the scarp was remediated”.
- 4.4.4. The notice “required immediate measures to be taken to prevent a possible fall from [the] decks and paths in excess of 1m” and the owner was given additional time to undertake more “significant work to prevent the building remaining dangerous”.

5. Expert’s report

- 5.1. The Ministry engaged the services of a firm of chartered professional engineers with structural and geotechnical expertise (“the expert”) to carry out a site visit and a review of the information provided by the parties, and to report on whether the various structures are dangerous.
- 5.2. The expert conducted geotechnical field investigations and a field survey.²⁵ The findings of their report²⁶ are summarised below:

The landslide

- 5.3. Referring to the report by geotechnical engineer 1 (see paragraph 3.3), the expert stated:

The landslide has been characterised as a shallow translational slide...and the failure mechanism attributed to the historical fill material placed to form the building platform becoming heavier and weaker from rainfall-induced saturation, resulting in downhill sliding.

²⁵ The site visit was carried out on 22 April 2024, and investigations included augured boreholes, dynamic cone penetrometer testing and in-situ strength tests using a hand-held shear vane device. The survey was to approximate distances from the various buildings to the property boundaries.

²⁶ Dated 14 May 2024. A copy was sent to the parties on 15 May 2024.

Possible contributing factors

- 5.4. The expert referred to various contributing factors affecting slope instability. The landslide was triggered by the August 2021 rainfall, but other processes may have contributed, such as a rise in groundwater levels and soil saturation, crack development near the head of the landslide prior to failure, soil creep, and natural weathering.
- 5.5. The expert's summary of the situation is:

Considering the above processes are all plausible, that the non-engineered fill is more susceptible to instability, and [the] demarcation between non-engineered fill and the natural ground is uncertain, in the absence of any remedial work to improve the stability of the slope, future instability and movement resulting in further regression of the slope cannot and should not be ruled out.

The carport

- 5.6. The visible pile caps on the deep piled foundation "do not appear to have any signs of structural distress" and calculations "indicate an adequate axial design".
- 5.7. However, other calculations where the deep piled foundation is subjected to "lateral loading by moving soil²⁷...indicates that the structural shear capacity will be mobilised and potential failure of the pile in shear could occur".
- 5.8. The concrete slab and blockwork walls of the carport "are unlikely to have been affected by the landslide", and the 'staircase' cracking in the east blockwork wall "is not consistent with likely movement that would be induced by... the landslide".
- 5.9. "[U]ndermining of the carport is still possible in the absence of remedial work" and could result in "loss of support to the concrete carport slab and blockwork walls, and potential shear failure of the reinforced concrete pile[s] with the pile at the northeast corner the most susceptible". This risks injury or death to occupants of the first-floor lounge and the carport, meaning the carport does meet the test of a dangerous building.

Dwelling foundations

- 5.10. The north end of the dwelling is vulnerable to landslide-induced ground movement because cut and fill earthworks were used to make the building platform.
- 5.11. However, the lack of earthworks information means it is not possible to "assess the risk of landslide-induced ground instability and movement beneath the dwelling with any certainty", or to "adequately assess if the foundations of the dwelling (as a whole) meet the test" of being a dangerous building.

²⁷ A uniform lateral soil movement of 150mm throughout the depth of the fill layer.

The upper deck²⁸

- 5.12. The post and diagonal brace supporting the upper deck “lack adequate fixity to the upper deck and to the ground”.
- 5.13. If the northeast corner pile failed, the upper deck would be excessively displaced and would not be safe, although it may not collapse.²⁹
- 5.14. There is insufficient information to determine whether the two existing steel supports closest to the head scarp have adequate foundation capacity.
- 5.15. “[F]urther regression of the landslide cannot be ruled out, [meaning] loss of ground support to the timber post and diagonal is still possible...and this may lead to partial collapse of the upper deck”, risking injury or death. Therefore, “the upper deck does meet the test for being a dangerous building”.

The water tank

- 5.16. The water tank does not appear to have “structural distress associated with differential ground movement” and the foundations have not been undermined.
- 5.17. Belowground construction details for the water tank are unknown and the type of ground it is founded on is uncertain.
- 5.18. Regression of the landslide for a “distance in the order of 1.5m can be tolerated before [bearing] failure”.
- 5.19. It is not possible to assess whether the water tank meets the test of being a dangerous building.

The lower deck

- 5.20. The lower deck is supported on timber posts embedded into the ground with concrete encasements that were originally below ground level. However, the landslide has resulted in a loss of ground support for some posts.
- 5.21. At least one timber post has been completely removed by the landslide. A replacement timber post is not adequately founded.
- 5.22. Further slope instability and movement cannot be ruled out, meaning that the timber posts supporting the lower deck could lose ground support in the future, leading to a partial or complete structural collapse and potentially injury or death. Therefore, the lower deck meets the test of being a dangerous building.

²⁸ The expert’s report was completed prior to the owner installing additional supports to the upper deck.

²⁹ In considering live loads, the expert said that if there was a “very light load (up to 0.5kN/m²), then the upper deck may not [collapse]”, but “if the upper deck has a load [of]...(1.5kN/m²), then the upper deck will [collapse] following failure” of the two supports under the north end of the deck.

The walkway

- 5.23. The concrete walkway does not appear to be in structural distress and is directly supported by the ground. However, undermining and/or downhill movement are still possible. Therefore, the walkway meets the test of being a dangerous building.
- 5.24. In addition, the walkway underpins at least one support for the upper deck. Therefore, failure of the walkway may lead to collapse of the upper deck, and injury or death.

Other properties

- 5.25. The expert prepared a site plan showing distances between the property's legal boundaries and the structures being considered in this determination.
- 5.26. Based on available topographical data, the maximum slope angle is in the northeast direction (ie where the direction of future ground movement is expected).
- 5.27. Any partial or complete building collapse at the property should occur in the direction of ground movement. It is unlikely to cause injury or death at the neighbouring property at 4 Welsh Hills Road, but may do so in "the lower steep vegetated terrain" at the neighbouring property at 124 Christian Road.
- 5.28. However, persons being located in the lower steep vegetated terrain "is not expected to be a scenario that could well happen and as such not in the ordinary course of events". Therefore, the buildings "are unlikely to cause injury or death (whether by collapse or otherwise) to any persons on other property".
- 5.29. Partial or complete building collapse at the property is unlikely to cause damage at 4 Welsh Hills Road but may cause damage at 124 Christian Road.

6. Discussion

- 6.1. The matter to be determined is the authority's decision to issue the dangerous building notice. In deciding this matter, I must consider whether the structures referred to in the notice, namely the dwelling, the lower deck and water tank, are dangerous in accordance with section 121(1)(a).
- 6.2. Because the notice referred to "unprotected falls", in deciding this matter I have also considered whether the potential for unprotected falls from the lower deck and walkway makes those dangerous for the purposes of section 121.

The legislation

- 6.3. The relevant provision in the Act is section 121(1)(a), which defines a dangerous building:

- (1) A building is dangerous for the purposes of this Act if,—
- (a) in the ordinary course of events (excluding the occurrence of an earthquake), the building is likely to cause—
- (i) injury or death (whether by collapse or otherwise) to any persons in it or to persons on other property; or
- (ii) damage to other property;...^[30]

6.4. There are various modes of structural failure that can result in a building being dangerous, including if the building lacks structural integrity due to construction deficiencies, subsequent damage, or excessive loadings, or if the structure loses support from the ground. Further, the provisions relating to dangerous buildings that refer to a 'building' can also apply to *part* of a building.³¹

6.5. In determining this matter, I have taken into consideration the meaning of the following terms in section 121 as considered by the courts:

6.5.1. 'likely' as considered by the District Court in *Wheldon (1996)*³² and *Rua (1999)*³³ in relation to a dangerous building

6.5.2. 'in the ordinary course of events' as considered by the District Court in *Rua (1998)*³⁴

6.5.3. 'likely to cause injury or death' as considered by the District Court in *Rua (1998)*

6.6. In the meaning of dangerous building, subsection (1)(a)(i) concerns whether the building is likely to cause "injury or death...to any persons **in it**..." [my emphasis]. The lower deck and water tank are not structures with internal spaces that people would be "in". However, the wording in section 124 implies a broader interpretation of section 121 to also include persons in proximity to the building. Subsection (2)(a) provides for authorities to put up a hoarding or fence to "prevent people from approaching the building **nearer than is safe**", and (2)(b) refers to "a notice that warns people **not to approach the building**" [my emphasis].

³⁰ Section 7 defines "other property" to mean any land or buildings, or part of any land or buildings, that are (i) not held under the same allotment; or (ii) not held under the same ownership.

³¹ See Determination 2012/043: *Whether the special provisions for dangerous, earthquake-prone, and insanitary buildings in Subpart 6 of the Building Act that refer to a building can also be applied to a part of a building* (dated 7 June 2012).

³² *Auckland City Council v Weldon Properties Ltd*, 1996 DCR 635 (DC) (upheld on appeal in *Weldon Properties Ltd v Auckland City Council* HC Auckland HC26/97, 21 August 1997).

³³ *Rotorua District Council v Rua Developments Ltd*, 17 December 1999, McGuire J, DC Rotorua NP1327/97

³⁴ *Rotorua District Council v Rua Developments Ltd*, 3 March 1998, McGuire J, DC Rotorua NP966/97 ["*Rua (1998)*"]. *Rua 1999* added "local conditions", such as Rotorua's more than usually corrosive atmosphere, to that non-exclusive list of criteria.

- 6.7. The High Court's comment in *Hyslop (1993)* also suggests a broad interpretation of the provision:³⁵

The provision in the Act^[36] is for the protection of the public. It has to be interpreted in a fair, large and liberal way.

- 6.8. Therefore, in considering whether the lower deck and water tank are dangerous, I have considered whether (by collapse or otherwise) these structures are likely to cause injury or death to any person on or in proximity to the structures.

Whether the buildings are dangerous

- 6.9. In determining this matter, I have taken into consideration the submissions made by the parties, the specialist geotechnical and structural engineering advice obtained by the owner, and the expert's report.
- 6.10. In doing so, I note the reports of the three geotechnical engineers and the structural engineers did not refer to section 121 and whether the building was dangerous. However, their observations and opinions have assisted me in forming a view on this matter.
- 6.11. I also note that in making this determination I have the benefit of information and opinions provided by the geotechnical engineers and structural engineers that the authority did not have at the time it made its decision.³⁷

The dwelling

- 6.12. In relation to the dwelling, the notice states "The landslide has also extended to the underside of the foundations of the upper level deck on the north-eastern corner of the dwelling adjacent the foundations for the dwelling", and "The landslide is unsupported which may allow further movement of the soils which could affect the foundations of the dwelling, decks, walkway...". The notice also stated, based on geotechnical engineers' advice, "the slip is likely to reactivate in adverse weather conditions and needs to be addressed promptly."
- 6.13. It is the north end of the dwelling closest to the landslide – including the first-floor lounge, upper deck, carport, walkway, and associated foundations – that are most likely to be affected by the landslide or further soil movement.

³⁵ *Hyslop v Dunedin City Council*, 21 June 1993, Doogue J, AP 35/93.

³⁶ Section 64 of the former Building Act 1991 (now section 121 of the Building Act 2004).

³⁷ See also Determination 2024/001 (12 January 2024), [1.13] to [1.27] regarding the role of the determination and precautionary principle.

- 6.14. The primary structural elements at the north end are the reinforced concrete piles and ground beams, and the supports for the upper deck which rely on the northeast corner pile, the walkway, and the carport concrete slab for structural stability. If these elements were to lose structural stability through soil movement and/or loss of ground support, the integrity of the first-floor lounge, upper deck, walkway, and carport would be compromised.
- 6.15. The owner has advised there is a 1.2m deep concrete pile supporting the steel post at the north end of the upper deck.³⁸ The pile is not included in the plans for the original construction and no information has been provided about the pile, such as its cross-sectional size or how it has been constructed, and I have received no evidence that would confirm its depth, nor any structural calculations or engineering assessment.
- 6.16. In relation to the upper deck, I have also taken into consideration the additional supports and fixings installed by the owner at the north end of the upper deck (after the notice was issued), and the advice received from the structural engineer.³⁹
- 6.17. Based on the engineering advice, the deep piled foundations at the northeast and northwest of the carport are assumed to be embedded in mudstone at the top of the slope,⁴⁰ and the expert and owner both observed no signs of distress. The engineering advice also indicates these two deep-piled foundations act in combination with the ground beams to support the north end of the dwelling.⁴¹
- 6.18. While I have received no information from the site investigations that would establish the condition and structural integrity of the foundation piles or confirm embedment into the underlying mudstone, with the exception of cracking in the blockwork wall (which is disputed) building elements above ground level do not indicate the landslide has damaged the dwelling's foundations.
- 6.19. However, I must also consider whether the conditions to trigger further soil movement and slope regression fall within the parameters of the ordinary course of events. As noted in *Rua (1998)*, this excludes events such as 50-year floods or cyclones but includes climatic conditions such as dry and wet spells, heavy downpours, and winter storms.
- 6.20. I have received no evidence that the naturally occurring substrata was affected in the landslide, rather the landslide material appears to be non-engineered fill placed to the north and east of the dwelling during its construction in 1973.

³⁸ It is not clear where the 1.2m depth has been measured from.

³⁹ Report dated 17 July 2024, refer to paragraph 4.2.

⁴⁰ Refer to paragraphs 2.4, 3.4.4 and 4.3.18.

⁴¹ Refer to paragraph 4.1.

- 6.21. An original plan⁴² shows non-engineered “loose fill material” to a depth of 1.67m at the north end of the dwelling, and this is supported by the investigations of geotechnical engineer 2 which indicates there is still fill material under part of and near the north end of the dwelling.⁴³ Geotechnical engineers 1, 2, and 3 state that the head scarp needs remediation (engineers 1 and 2 say “as soon as possible”) to mitigate further movement of the upper fill and building platform.
- 6.22. The owner has covered part of the landslide with plastic sheeting to mitigate further saturation.⁴⁴ However, I concur with geotechnical engineer 2 that this is not a suitable means to manage the conditions that would trigger further soil movement. Relevant to those conditions is that the ground to the north and east of the dwelling where fill material is present remains exposed (including where the temporary plastic sheeting is not present or is not adequately maintained).
- 6.23. There is also evidence of pre-landslide soil creep, which demonstrates an ongoing risk of soil movement.
- 6.24. Based on the reports by geotechnical engineers 1, 2 and 3, I am of the view that in the absence of appropriate remediation further soil movement and slope instability may be triggered by future climatic events. The likelihood and extent of slope regression will increase over time.
- 6.25. However, the degree or amount of further movement of the soils that would occur is not clear.
- 6.26. It is also unclear the extent to which the slope would need to regress before it would affect the structural stability of the dwelling’s various building elements that rely on support from the ground (such as the carport ground beams and blockwork walls, the walkway, or the supports to the upper deck), to such an extent that the building would be likely to cause injury or death.
- 6.27. It is unclear whether the carport ground beams have been designed as suspended building elements or whether they rely on support from the ground across their entire length. If they rely on support from the ground, which I consider more likely than not, sufficient loss of ground support⁴⁵ may cause the bending capacity of the ground beams closest to the head scarp to be exceeded. This would result in the structural integrity of the concrete blockwork wall above being compromised.
- 6.28. There may be sufficient redundancy in the primary and secondary structural elements (assuming the presence of adequate structural connections) to result in a partial (rather than complete) collapse of the north end of the dwelling in the event of loss of ground support. However, it is unclear to what extent vertical loads would

⁴² Dated September 1973.

⁴³ This is evident in cross-section A-A of their report (refer to paragraph 3.4.5 and Figure 4).

⁴⁴ The owner has also indicated an intention to remediate the landslide, but I have not received any information that suggests this has been done.

⁴⁵ Refer to paragraph 4.1.2.

be distributed across the foundation system and the extent to which the building elements may partially collapse, likely causing injury or death, has not been assessed or quantified by the parties.

- 6.29. Regarding the support to the upper deck, a pile at 1.2m depth under the steel support at the north end of the deck would only be supported by the existing topsoil and fill material⁴⁶ and is a short horizontal distance from the 2-3m deep head scarp.
- 6.30. Regression of the slope may reach a point where it causes a loss of support to this pile and potentially also undermines the walkway. After the notice was issued, the owner has installed additional supports to this end of the deck, presumably to mitigate this risk. However, notwithstanding the advice provided by the second structural engineer,⁴⁷ I have insufficient information to establish the structural adequacy of all these arrangements together or how the upper deck is likely to perform if the vertical timber post closest to the head scarp was to lose support from the walkway and/or the 1.2m deep concrete pile.⁴⁸
- 6.31. Based on the evidence provided, I am not satisfied the dwelling is dangerous, in terms of the degree of or amount of soil movement that is likely to occur in the ordinary course of events and the extent the slope would need to regress to affect the dwelling's structure to the point that it would be likely to cause injury or death.

The lower deck

- 6.32. According to the notice, the lower deck is unstable after some of its foundations were removed by the landslide and additional soil movement could further destabilise the structure.
- 6.33. The owner has acknowledged the landslide has caused "the landing of the stairs to the lower deck and the lower deck itself on the landing end [to be] compromised" and requires remediation. Geotechnical engineers 1 and 2 made similar observations.⁴⁹
- 6.34. The expert noted a loss of ground support to timber posts and associated concrete encasements below the lower deck, and that at least one post was completely removed by the landslide.

⁴⁶ Refer paragraph 3.4.5, hand auger HA2 which indicates topsoil and fill material to a depth of approximately 1.6m.

⁴⁷ Refer to paragraph 4.2.

⁴⁸ Based on geotechnical engineer 2's hand auger field log HA2 closest to the steel post, this pile is positioned in a layer of fill material.

⁴⁹ Refer to paragraphs 3.3.4 and 3.4.2.

- 6.35. It appears that since the notice was issued, and in the absence of permanent remediation, the slope has continued to move since the notice was issued, and the structural integrity of the lower deck foundations has deteriorated further.⁵⁰
- 6.36. As the notice raised concerns about further movement of the soils affecting the foundations of the lower deck, I have also considered whether further soil movement is likely in the ordinary course of events.
- 6.37. The landslide material near the lower deck appears to be non-engineered fill, and site investigations by geotechnical engineer 2 after the landslide indicate the ground in the vicinity of the lower deck is still overlain with variable depths of topsoil and fill material.⁵¹ I have considered the various engineering reports provided but have received no evidence that the naturally occurring substrata was affected.
- 6.38. Geotechnical engineer 2 observed evidence of pre-landslide soil creep, including in the area near the lower deck.⁵² I note that although the lower deck will protect the slope from rainfall to some extent, the ground is still likely to experience saturation and subsequent soil movement.
- 6.39. I am of the view that further soil movement and slope instability that impacts the lower deck foundations is likely to be triggered by climatic conditions in the ordinary course of events.
- 6.40. I consider the lower deck is likely to collapse partially or completely as a result of further soil movement, and any person on it or near it would be likely to suffer injury or death from that collapse. Therefore, I am satisfied that the lower deck is dangerous for the purposes of the Act.⁵³

The water tank

- 6.41. The notice states that the landslide “extends to the foundations of the water tank” and it is at risk from further soil movement.
- 6.42. The landslide appears to extend under the lower deck and may be close to the north end of the timber retaining wall located below the water tank. There does not appear to be any distortion of the retaining wall suggesting structural distress or failure, nor disturbance of the land it supports, and nothing in the information that has been submitted suggests the landslide has resulted in a loss of support to the water tank.

⁵⁰ In reaching this view I have compared a photograph taken by the authority dated 5 April 2022 and other photographs taken by the expert in April 2024.

⁵¹ For example, the results from hand auger logs for HA2, HA3, HA4, and cross sections A-A and B-B. Refer paragraph 3.4.5.

⁵² Refer to paragraph 3.4.7.

⁵³ The owner and expert have offered opposing views on whether part or all of the lower deck is dangerous. Regardless, I note a dangerous building notice can apply to part of a building.

- 6.43. However, as I have noted above for the other structures, I must also consider whether further soil movement is likely in the ordinary course of events.
- 6.44. The landslide material near the water tank appears to be non-engineered fill, and onsite investigations by geotechnical engineer 2 after the landslide indicates the ground in the vicinity of the water tank is still overlain with topsoil and fill material.⁵⁴ I have received no evidence that the naturally occurring substrata was affected by the landslide.
- 6.45. The owner has covered part of the landslide with plastic sheeting to mitigate further saturation. However, for similar reasons to those set out in paragraphs 6.21 and 6.22 above, I am of the view that further soil movement and slope instability that impacts the water tank may be triggered by climatic conditions in the future. In particular, I note that some ground to the north of the water tank where fill material is present, remains exposed to the weather.
- 6.46. In the absence of permanent remediation, I am of the opinion that further soil movement and slope regression is likely, and the likelihood and extent will increase over time.
- 6.47. I have little information regarding the type of soils supporting the water tank (refer to paragraphs 3.8.4 and 5.17), or about the design and construction of the water tank and its foundations. Nor have I received information about the design and construction of the retaining wall downhill from the water tank or any impact on that structure from the landslide.
- 6.48. However, taking into account the approximate horizontal distance between the water tank and the landslide (refer to paragraph 4.3.19), and the extent to which the landslide would need to regress before inducing bearing failure (refer to paragraph 5.18), I am not satisfied the water tank will become structurally unstable and create a risk of injury or death in the ordinary course of events. As the threshold in section 121 is not met in relation to the water tank, I conclude the water tank is not dangerous for the purposes of the Act.

Unprotected falls

- 6.49. In addition to stating the buildings are dangerous, the notice also refers to unprotected falls in excess of 1.0m from the lower deck and the. Therefore, I have considered whether, as a result of the landslide, the potential for falling from the lower deck and walkway makes these dangerous in terms of section 121.
- 6.50. The landslide has changed the physical conditions on the property, creating steep drops from the walkway (refer to Figure 1) and the north end of the lower deck (refer to Figure 5).

⁵⁴ For example, based on results from hand auger logs for HA2, HA3, HA4, and cross sections A-A and B-B.

6.51. In this case, I have assumed the reference in the notice to the falls being “in excess of 1.0m” relates to clause F4.3.1 where barriers are to be provided:

Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a building, a barrier shall be provided.

6.52. While I note the test in section 121 is not an assessment of compliance with the Building Code, the objective of clause F4.1 “is to safeguard people from injury caused by falling”.

6.53. From photographs and other evidence provided by the parties, it appears there were barriers around the landing at the north end of the deck, and the barrier is no longer there. I have no information about whether there was a barrier at the north end of the walkway.

6.54. The physical changes to the land have created a situation where a person in these locations could fall one metre or more. Due to the potential fall height, slope steepness, and obstructions/projects in the lower ground, a fall from either the walkway or lower deck is likely to result in injury or death.

6.55. Therefore, I am satisfied that, in the ordinary course of events, the lower deck and walkway are dangerous for the purposes of the Act. Consequently, the authority had grounds to include them in the notice.

6.56. The owner has acknowledged the “slip has created a fall hazard risk at the property” and has erected temporary barriers and warning signage. These measures have been observed by the authority,⁵⁵ and whether this has reduced or removed the danger is outside the matter I am determining (refer to paragraph 1.6.3).

Other property

6.57. With reference to the potential for further movement of soils to affect the foundations of dwelling, decks, walkway and water tank, the notice states “Should this occur it could pose a risk of injury to the occupants of...the adjoining properties or damage to other property”.⁵⁶

6.58. Section 121(1)(a) provides that a building is dangerous if, in the ordinary course of events, it is likely to cause death to persons on other property or damage to other property.

6.59. I have already reached the view that I am not satisfied the threshold in section 121 is met in relation to the dwelling and the water tank. Therefore, I do not need to consider whether these buildings are likely to cause injury or death to persons on

⁵⁵ As evidenced in the authority’s photographs dated May 2022, taken after the issue of the notice.

⁵⁶ It is not clear whether the authority identified that the other properties at 4 Welsh Hills Road and 124 Christian Road (see Figure 2) were either dangerous under section 121 or affected under section 121A.

other property, or damage to other property, but I must consider the lower deck.

6.60. The notice did not clarify which other properties the authority considered were at risk. In my view, 124 Christian Road and 4 Welsh Hills Road are the relevant 'other properties'. Refer to Figure 2.

6.61. To determine the likelihood of injury or death to any persons on other property or damage to other property in the event of the lower deck's collapse, I have considered the following factors:

- The horizontal distances between the lower deck and the property boundaries⁵⁷. The north end of the deck is approximately 7m from the boundary with 124 Christian Road.
- The steepness and general direction of the slope at the property, as noted in geotechnical engineer 2's report dated 27 September 2021.⁵⁸ The land slopes steeply in a northeast and east direction away from the dwelling and lower deck, and also away from 4 Welsh Hills Road.
- The likely direction of movement of the lower deck.
- The dense vegetation at 2 Welsh Hills Road, which is likely to slow or impede the movement of debris resulting from the lower deck collapsing.
- The lower deck being a relatively lightweight timber structure apart from the concrete encasements around the base of the supports. This implies it would not move as far under gravity loads as a heavier structure of similar size.
- Based on photographs provided, the upper surface of the deck (excluding the barrier) is 2-3m above ground level on the east side. Therefore, in a collapse situation, the lower deck is likely to drop a relatively short distance before sliding downhill.

6.62. In this case, I am of the view that debris generated by a collapse of the lower deck is unlikely to reach the 4 Welsh Hills Road or 124 Christian Road property boundaries. Therefore, the lower deck is unlikely to cause injury or death to persons on, or damage to, other property.

6.63. Having considered the available evidence, I am not satisfied that, in the ordinary course of events, the lower deck is likely to cause injury or death (whether by collapse or otherwise) to any persons on other property or damage to other property. Therefore, in this regard the test under section 121 is not met.

⁵⁷ As noted in Appendix K of the expert's report.

⁵⁸ Refer to Figures 1 and 2, and map number 1 in Appendix A, of the report.

7. Conclusion

- 7.1. I am not satisfied the dangerous building test in section 121(1)(a) is met in relation to the dwelling or the water tank.
- 7.2. The lower deck is a dangerous building under section 121(1)(a), in terms of the likelihood of structural failure.
- 7.3. I am satisfied the lower deck and walkway are dangerous buildings under section 121(1)(a), as they are likely to cause injury or death in the event persons were to fall from them.
- 7.4. I am not satisfied that, in the ordinary course of events, the lower deck is likely to cause injury or death (whether by collapse or otherwise) to any persons on other property or damage other property.
- 7.5. As the evidence provided does not support the notice in full, this determination reverses the authority's decision to issue the dangerous building notice. I leave it for the authority to consider whether to issue a new notice, taking into account the findings of this determination, the current situation at the property and any new evidence that may be available.
- 7.6. The conclusions I have reached are based on the information that has been provided to date and the application of the thresholds in section 121. The conclusions in this determination do not mean that the dwelling and water tank would not become dangerous in an event that is outside the 'ordinary course of events' or over an extended period if the slope is not stabilised. I strongly suggest the owner monitors any further soil movement and considers an appropriate method to stabilise the slope to prevent the regression extending to the point that either the water tank or dwelling become dangerous buildings.

8. Decision

- 8.1 In accordance with section 188 of the Building Act 2004, I determine the requirements to issue the dangerous building notice in its entirety were not met, and I reverse the authority's decision.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 27 September 2024.

Peta Hird
Lead Determinations Specialist