



Determination 2021/013

Regarding the proposed granting of a building consent for an alteration to a building on land subject to a natural hazard at 45 Darlington Road, Miramar, Wellington

Summary

This determination discusses the interpretation of the natural hazard provisions in the Building Act 2004 (sections 71 to 74). The determination considers whether: building work amounts to “major alterations”; land on which the building work is to be carried out is likely to be subject to a natural hazard (specifically inundation); “adequate provision” has been or will be made to protect the land and building work.

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004 (“the Act”) made under due authorisation by me, Katie Gordon, National Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.¹
- 1.2 The parties to the determination are:
 - R Cook and W Cook, the owners of 45 Darlington Road, Miramar, Wellington (the “property”) who applied for the determination (the “owners”)
 - Wellington City Council carrying out its duties as a territorial authority or building consent authority (the “authority”).
- 1.3 This determination arises from the authority’s proposed decision to grant a building consent for alterations to a building on the owners’ property subject to the consent being notified to the Registrar-General of Land² under section 73 (“a section 73 notification”).³ The owners consider that the building consent should be granted under section 49 without a section 73 notification.
- 1.4 Under section 177(1)(b) and 2(a) of the Act, the matter to be determined is, therefore, the authority’s proposed decision to grant the building consent subject to a section 73 notification. In making this determination, I must consider:

¹ The Building Act and Building Code (Schedule 1 of the Building Regulations 1992) are available at www.legislation.govt.nz. References in this determination to sections are to sections of the Act, and references to clauses are to clauses of the Building Code. Information about the legislation, as well as past determinations, compliance documents and guidance issued by the Ministry, is available at www.building.govt.nz.

² The Registrar-General of Land is an independent statutory officer established by the Land Transfer Act 1952 with specific responsibility for the land titles system.

³ On receiving a section 73 notification, the Registrar General of Land must record as an entry on the record of title that the building consent was granted under section 72 together with the particulars that identify the natural hazard (under section 74).

- whether the building work for which consent is being sought amounts to “major alterations” of an existing building;⁴
- if the land on which the building work is to be carried out is subject to one or more natural hazards, or the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property;⁵ and
- if adequate provision has been or will be made to protect the land, building work, or other property from the natural hazard, or restore any damage to that land or other property as a result of the building work.⁶

1.5 The natural hazard that is the subject of this determination is inundation (more specifically, flooding and overland flow)⁷.

2. The building work

The site

- 2.1 The total site area of the property is 608m². A dwelling and other buildings are located on this site.
- 2.2 A site investigation report provided by the owners confirms the topography to be a “residential section within a very wide, flat, shallow valley, roughly orientated north-south, towards its eastern side” and describes the soil conditions as “a thick layer of silty brown loam topsoil, with a slight clay content, down to the underlying bedrock”.
- 2.3 The rear section of the property (west of the dwelling) is predominantly grassed with some vegetation along the north boundary fence and an area of impervious (concrete) surface. There is a sleep-out and garden shed at the northwest corner of the site.
- 2.4 The site is at a lower level than the pedestrian pavement and public road that serves the property to the east of the dwelling, garage, and carport.

The existing buildings

- 2.5 The dwelling was first constructed in the 1920s. It is a single storey timber-framed building, with direct-fixed rusticated timber weatherboards and timber windows. The dwelling is supported on its original timber piles and subfloor construction.
- 2.6 There are a number of existing buildings on the property. Other than the dwelling, these include a sleep-out, shed, garage, carport, and timber deck.
- 2.7 Including the area of the timber deck which is approximately 27m², the combined area of all the existing buildings on the property is approximately 219.9m² as shown in figure 1. Note, the area of 123.7m² for that part of the building annotated as “Existing [dwelling] site coverage” in figure 1 includes the area of the “lean-to” of 19.7m². The area of the lean-to to be demolished has only been shown on figure 1 as this is relevant to the calculations in table 1.
- 2.8 The percentage of existing site coverage, taking into consideration the total area of all the existing buildings, is 36.17 per cent (calculated by $(219.9 \div 608) \times 100$).

⁴ Under section 71(1).

⁵ Under section 71(1)(a) and (b).

⁶ Under section 71(2).

⁷ Under section 71(3)(d).

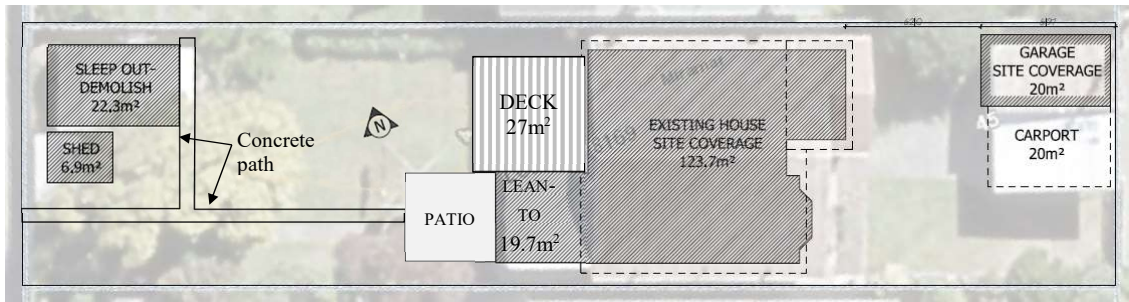


Figure 1: Site plan showing existing structures (not to scale)

- 2.9 A concrete path runs along the north side of the dwelling, and there is a concrete patio area to the west of the lean-to. Beneath the deck is also concrete. There is a narrow concrete path that leads from the patio to a pedestrian gate in the boundary fence at the west end of the property; a separate narrow concrete path branches off that leads to the sleep-out. A further concrete area exists between the carport and the dwelling. Excluding all buildings on the site, with the exception of the open sided carport which has a sloping concrete slab, this equates to approximately 134m² of impervious surfaces.
- 2.10 The lean-to extension was built in the 1970s, and consists of a bathroom and kitchen as shown in figure 2, below. The lean-to is approximately 19.7m² in area, and the adjacent existing deck is approximately 27m². This equates to a combined area of approximately 46.7m². Both the lean-to and deck are shown hatched in figure 2 below on the west side of the dwelling.

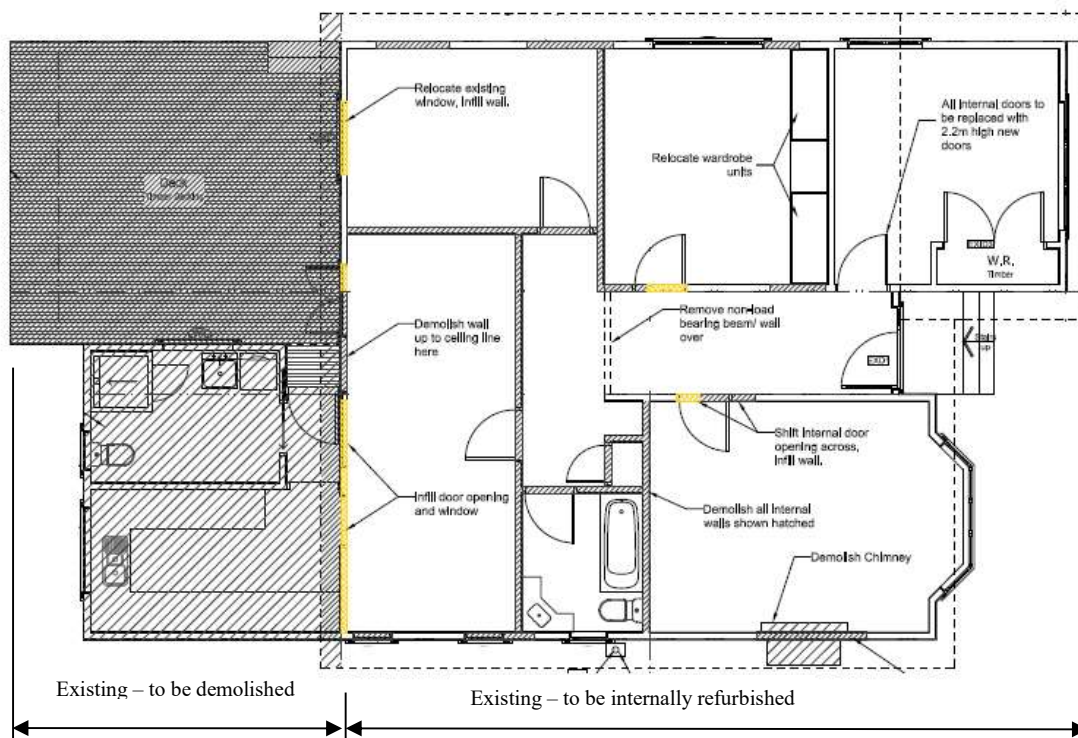


Figure 2: Existing floor plan (not to scale)

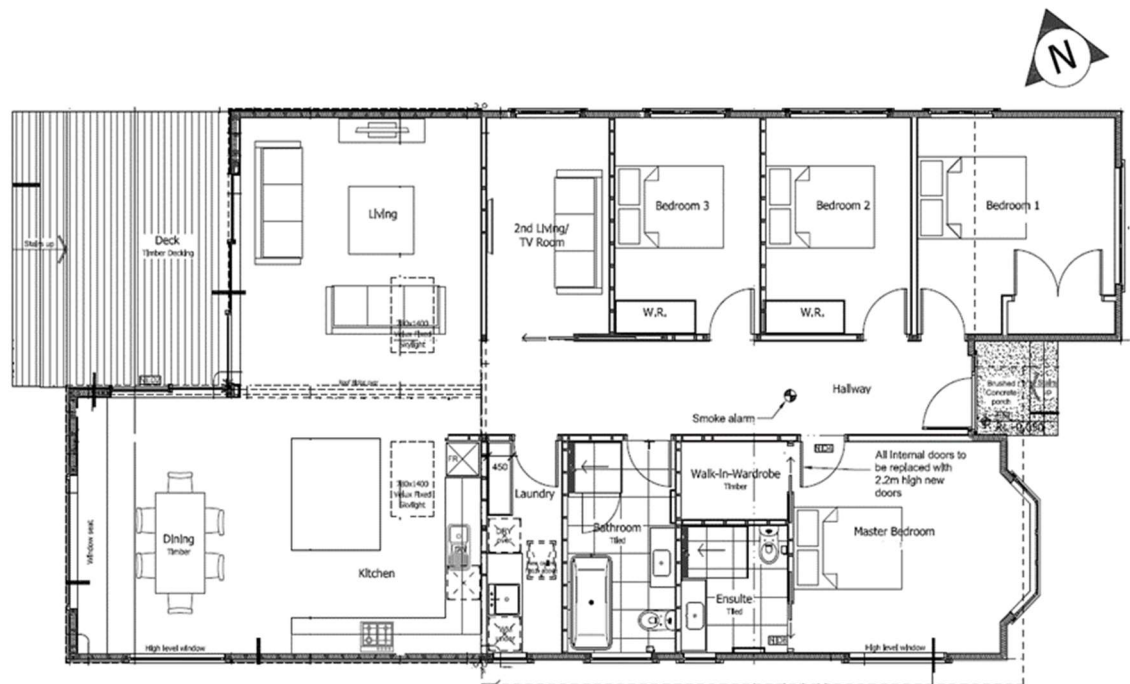


Figure 3: Proposed floor plan (not to scale)

The proposed building work

2.11 The proposed building work is shown (in part) in figure 3 and includes (but is not limited to):

- lifting the dwelling (raising the finished floor level by approximately 300 mm)⁸, moving it horizontally from south to north by approximately 100 mm, and re-piling the whole of the dwelling (using, in part, specific engineer design timber and concrete piles a minimum of 1100 mm in depth)
- relocating five timber windows to different locations in the existing part of the dwelling, and installing three new ones
- roof eaves to be cut back 200 mm

The extension

- replacing the existing lean-to with a new extension containing a kitchen, living room and dining area and extending the footprint to the west from that part of the building that remains by approximately 3.4m in one area and 4.2m in another (excluding the new deck)
- timber framing of external walls and roof, including specific engineer design elements (steel portal frame and beams), lightweight wall and roof cladding
- insulating roof and installing two new skylights to the extension

⁸ Conflicting information has been provided as to the extent of the building works to lift the dwelling. Some design plans indicate no increase at all, others imply an increase in excess of approximately 300 mm, and the authority refers to the building being raised to allow for 200 mm freeboard above the 1 per cent AEP flood level.

Internal alterations

- altering the layout of the existing internal walls, including new structural bracing
- replacing existing plasterboard wall linings with new plasterboard
- insulation to all external walls (new and existing)
- installing eleven new doors
- adding a new bathroom and separate en-suite
- form new laundry
- form a second living / TV room
- new gas hot water system, and potable cold water system
- new electrical work, plumbing and drainage
- new fixtures, fittings and surface finishings

Other

- demolition of existing chimney, timber deck, and sleep-out
- removing approximately 96m² of impervious surfaces, including some concrete paths, patio, and concrete pad under the existing deck
- construct a replacement timber deck, complete with steps supported on a 100 mm deep concrete plinth approximately 1.04m wide x 4.88m long.

2.12 The size of the proposed extension is approximately 59.47m². The size of the new deck is approximately 19.5m². This equates to a combined area of approximately 78.97m².

2.13 The total area of all the buildings shown in figure 4 below is 210.37m² (excluding the area of the new deck which is approximately 19.5m²)⁹. The total combined area, including the deck, is approximately 229.87m².

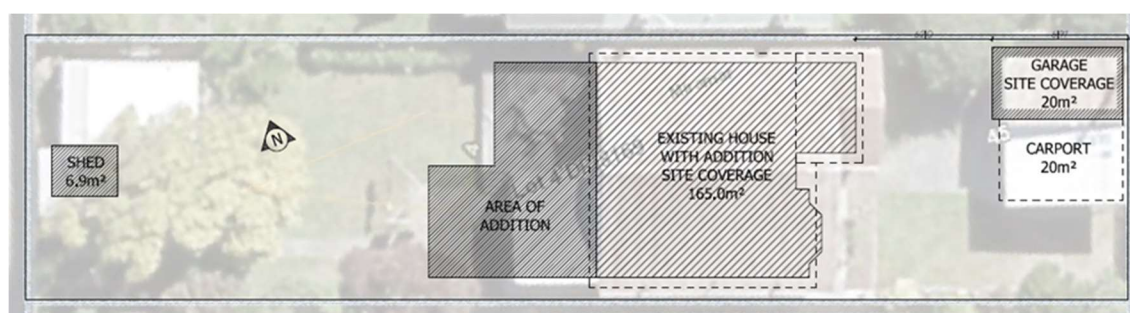


Figure 4: Proposed site plan (not to scale)

2.14 The plans indicate that the finished floor level of the proposed building has been designated a datum of 0.00, with a reduced level (RL) for the finished ground level ranging from approximately 650mm to 978mm below the finished floor level.

2.15 The percentage of proposed site coverage, taking into consideration the total area of all the buildings, is 37.80 per cent (calculated by $(229.87 \div 608) \times 100$).

⁹ The building consent plan copied in figure 4 indicates an area of 165m² for the site coverage of the existing house with new addition. This differs slightly from the other building consent plans which indicate a site coverage of approximately 163.47m²; it is this latter figure that has been used in the area and percentage calculations developed in this case.

- 2.16 The following table summarises the existing buildings, site coverage and total proposed coverage in approximate m².

	Deck	Dwelling	Other buildings	Site coverage*
Total existing	27.0	123.7	69.2	219.9 (36.17%)
To be demolished	27.0	19.7	22.3	-
To be constructed	19.5	59.47	Nil	-
Total proposed	19.5	163.47	46.9	229.87 (37.80%)

* Site coverage includes all buildings and decks

Table 1: Summary of building/building work coverage (area m²)

- 2.17 The net increase in the floor area of the main dwelling, excluding the deck, is 39.77m² (calculated by 59.47 - 19.7). This equates to an increase in floor area of approximately 32 per cent (calculated by $(39.77 \div 123.7) \times 100$).
- 2.18 I note the applicant calculated a net increase of floor area of 38m², or a 30 per cent increase, and the authority calculated a net increase in floor area of 36m², or a 29 per cent increase. Although the figures are different, they are similar, and they confirm that the new dwelling is close to being one third bigger in terms of floor area than the existing dwelling.
- 2.19 The area of the existing lean-to and deck which are to be removed is 46.7m², and the area of the extension and new deck is 78.97m². This equates to an increase of 32.27m².
- 2.20 The total site area is 608m². I have calculated the percentage of site coverage as follows:
- existing site coverage 36.17 per cent
 - proposed site coverage 37.80 per cent
 - increase in site coverage 1.63 per cent (calculated by 37.80 – 36.17).
- For the avoidance of confusion, I have taken the view that in calculating the increase in site coverage, that all the buildings (or part thereof) will be included.
- 2.21 By comparison, the applicant calculated a 2.6 per cent increase in site coverage, and the authority calculated a 6 per cent increase in site coverage¹⁰.
- 2.22 On behalf of the owners a chartered professional engineer¹¹ (the “owners’ engineer”) undertook a “site investigation for the re-piling of a light timber framed building in accordance with NZS 3604:2011”. The engineer’s report states:

The foundation re-piling for the existing dwelling **cannot** [my emphasis] be designed in accordance with the normal requirements of NZS 3604:2011 ‘Timber Framed Building Standard’, i.e. Chapters 6.4¹² and 6.5¹³ of Section 6. Therefore, it will be necessary to dig down, to a depth expected to be in the range of 0.9 to 1.1m, and concrete surround in place, new timber piles to support the foundations of the existing [dwelling] being re-piled.

¹⁰ The authority’s calculation only considered the increase in the area of the main dwelling, and excluded the area of the existing lean-to which is to be removed to allow for the construction of the new extension.

¹¹ The chartered professional engineer is registered with Engineering New Zealand as at February 2021, and their practice fields are in civil and structural engineering.

¹² New Zealand standard NZS 3604:2011 *Timber-framed buildings*, section 6.4 *Piles* – details height and size of piles, materials, reinforcement, and pile footings.

¹³ New Zealand standard NZS 3604:2011 *Timber-framed buildings*, section 6.5 *Ordinary piles*.

The flood modelling

2.23 Flood modelling information from the regional water services company related to the site was provided by both the owners and the authority.

2.24 In an email to the owners dated 6 July 2020, the regional water services company stated the following:

[the regional water services company has] draft model results from [its] Miramar model for a 1% AEP event including climate change.

The plan [as shown in figures 5 and 6] indicates the location of the site. Maximum depth, top water level and minimum floor level recommendation for the proposed extension are provided below:

- Maximum depth on site – 400 mm
- Top Water Level – 4 m aMSL¹⁴
- Minimum Floor Level – 4.2 m aMSL
- Flow speed – <0.2 m/s

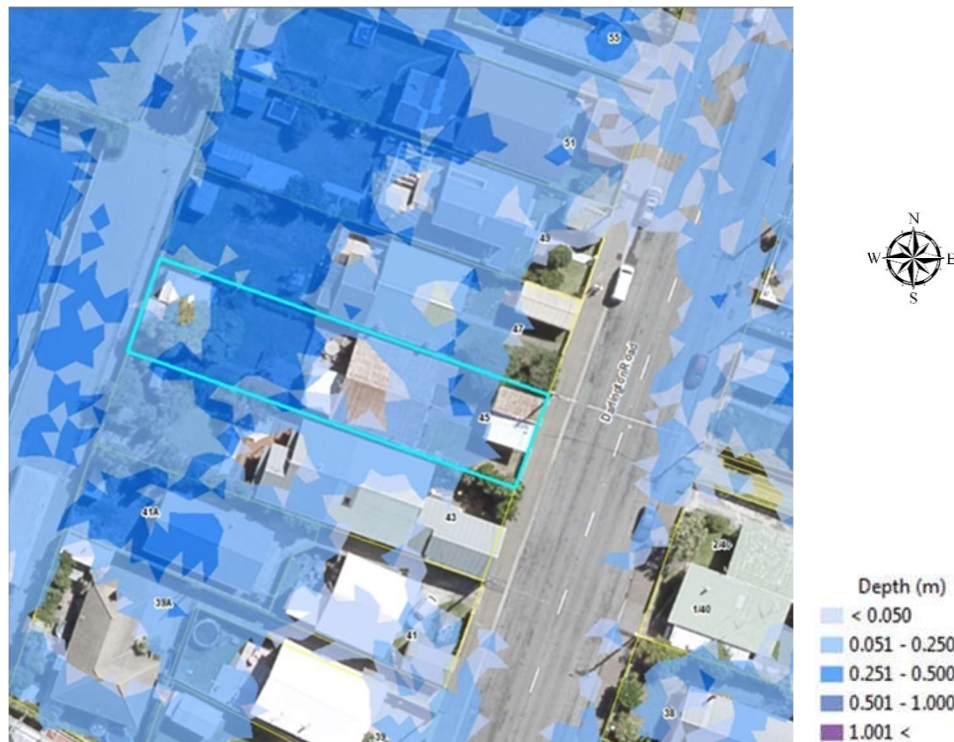


Figure 5: Flood modelling data from the regional water services company for the general area (not to scale)

¹⁴ Above mean sea level.

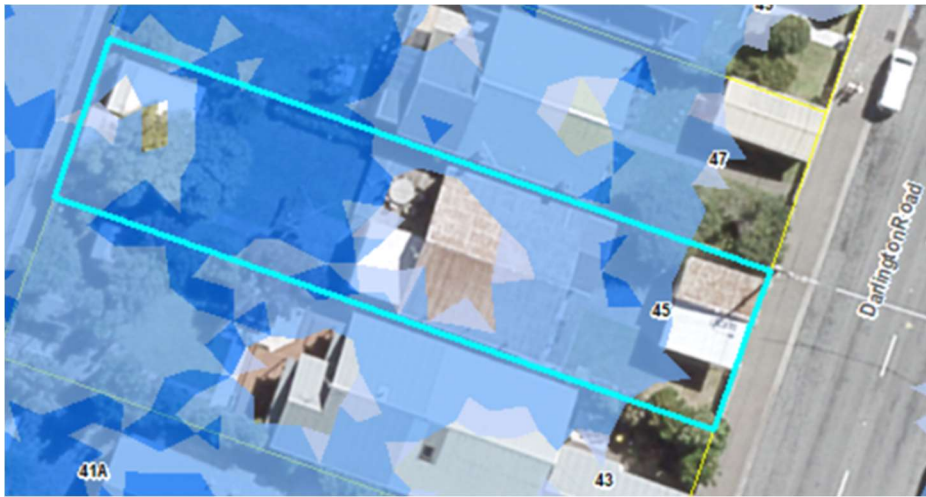


Figure 6: Flood modelling data from the regional water services company for the property (not to scale)

- 2.25 The flood modelling information for the site indicates that the greatest extent of the flooding (as shown in figures 5 and 6) is in the location of the new extension and deck and the garden area to the west side of the property. It also confirms that Darlington Road itself is at a higher level than the property, and that the site slopes from a high point on the east side of the site, to a low point on the west (i.e. towards the rear garden area).
- 2.26 On 27 October 2020 the authority provided additional flood modelling information for the site from the regional water services company. The data is represented in three graphs, and these are included in Appendix C.
- 2.27 One graph indicates a measure of rainfall intensity in mm/hr, over a specified period of time.
- 2.28 A separate graph for the “Deep Area of Site” indicates a steep increase in water level over an approximate duration of one to two hours, before reaching a maximum depth of water of 410 mm for a relatively short period of time (approximately one hour). Thereafter the water reduces in depth over a period of approximately four hours, down to approximately 140 mm for an extended (unspecified) period of time.
- 2.29 The final graph for the “Shallow Area of Site” indicates a steep increase in water level over an approximate duration of one to two hours, before reaching a maximum depth of water of 210 mm for a relatively short period of time (approximately one hour). Thereafter the water reduces in depth over a period of approximately four hours, down to approximately 40 mm for an extended (unspecified) period of time.
- 2.30 For both the “Deep Area of Site” and “Shallow Area of Site” graphs, they indicate a relatively steep rise in water level over an approximate duration of one to two hours, matching the increase in rainfall intensity, and once the peak depths are reached, a gradual reduction in water level over a much longer period of time as the rainfall intensity subsides.
- 2.31 In addition to the graphs, the authority provided the following statement from the regional water services company:

[the regional water services company's] flooding results are based on nested¹⁵ 1% AEP¹⁶ storm event including climate change. High tide level is assumed to correspond with the rainfall peak to produce a conservative result. ... It takes about four hours for the flooding to subside. It appears that the deep area of the site doesn't fully drain once filled.

- 2.32 In support of the flood modelling data, the authority also provided a copy of the regional water services company *Reference Guide for Design Storm Hydrology – Standardised Parameters for Hydrological Modelling*, version number 7, dated 9 April 2019. This includes an Appendix titled *Curve Number Tables and Map*, which shows numerical data for different types of land cover (e.g. bare and impervious surfaces) against four different soil groups.
- 2.33 In an email to the owners dated 6 July 2020, the regional water services company stated that it believed the nature of the flooding was attributed to “rain and storm water runoff”.
- 2.34 In an email to the Ministry dated 27 October 2020, the authority confirmed that the “surrounding topography and reticulated surface water drainage...are considered inherently with the [flood] modelling from [the regional water services company]”.
- 2.35 The local GIS¹⁷ mapping confirmed “the site is predominantly vegetated with grass with some existing paving to the rear of the dwelling where the flooding will occur”. The reference guide provided by the regional water services company also indicates that the flood modelling data *does* consider ground conditions (specifically different types of land cover and associated soil groups).

3. Background

- 3.1 Between November 2019 and March 2020 the owners commissioned design plans and specifications, including a site-specific geotechnical investigation report.
- 3.2 In April 2020, the owners applied for a building consent in relation to the building work.
- 3.3 On 11 May 2020, the authority requested further information from the owners that related to flooding on the site, including reference to flood modelling data, floor levels¹⁸, and the effects of the natural hazard on the foundations.
- 3.4 On 11 June 2020, the authority sent another request for further information notifying the owners that it was “not of the opinion that the hazard has been mitigated by the floor level being raised and that no means of protecting the land or mitigating the hazard had been provided”. The authority considered the risk of flooding to be sufficient to grant the consent subject to a section 73 notification.
- 3.5 On 24 June 2020, the owners requested information from the authority about its decision making and what it took into account when assessing the building consent application in respect of the natural hazard.

¹⁵ Nested storm rainfall profile is described in section 3 of the *Reference Guide for Design Storm Hydrology – Standardised Parameters for Hydrological Modelling*, dated 9 April 2019, version number 7, reference NZ0115163, by C. Lockyer and prepared for the regional water services company.

¹⁶ Annual Exceedance Probability, which is the probability that a given rainfall intensity will be exceeded in any one year, expressed as a percentage.

¹⁷ Geographical Information System.

¹⁸ Related to Building Code clause E1.3.2 – Surface water, resulting from an event having a 2 per cent probability of occurring annually, shall not enter buildings.

- 3.6 On 25 June 2020, the authority sent the owners documents it uses to make decisions around natural hazards and sections 71 to 73 and the factors it considered in making its decision, including references to previous determinations and taking into account the depth and flow rate of the inundation.
- 3.7 The authority's correspondence to the owners included:
- a marked up copy of a natural hazards decision tree¹⁹, showing how the authority applied the relevant provisions to the building consent application;
 - a number of previous determinations that referred to "major alterations" and natural hazards;
 - Auckland Council's practice note²⁰ relating to natural hazards;
 - Insurance Council guidance relating to section 73 notifications.
- 3.8 During this period of time the owners proposed to accept a section 73 notification if it included the term "may be" to indicate the possibility of the natural hazard. On 26 June 2020 the authority notified the applicant that it did not accept the owners' proposal, and asked for the owners to confirm whether they wanted to proceed.
- 3.9 The status of the building consent application for the property was "suspended" as a result of the latest request for further information regarding whether to proceed with the application subject to a section 73 notification.
- 3.10 The Ministry received an application for a determination on 23 September 2020.
- 3.11 In an exchange of emails between the parties on 14 January 2021, the owners confirmed there was some urgency in wanting to get the building work underway. The authority noted that due to the application for determination the authority's power to grant the building consent was suspended "unless directed otherwise by [the Ministry] (under section 183 of the [Act])".
- 183 Decision or exercise of power suspended until determination made**
- (1) Until the chief executive makes a determination on a matter, any decision or exercise of a power by any person referred to in section 177 that relates to that matter is suspended unless and to the extent that the chief executive directs otherwise.
- 3.12 The Ministry issued a direction pursuant to section 183(1) on 14 January 2021. The direction confirmed that the authority's power to grant the building consent in this case is not suspended. This has the effect that the authority can issue the building consent in relation to the building work subject a section 73 notification. The parties were also advised that the direction is not a determination under section 188.
- 3.13 The Ministry issued a draft determination to the parties on 3 March 2021.
- 3.14 The authority accepted the draft determination in its response to the Ministry on 11 March 2021.
- 3.15 The owners accepted the draft determination in its response to the Ministry on 23 March 2021.

¹⁹ Refer Appendix B: Natural Hazards Decision Tree.

²⁰ Practice Note AC2229 *Building on land subject to natural hazards*, v. 3.

4. The submissions

The owners

- 4.1 The owners are of the view that the building consent for the alterations to the dwelling should be granted without a section 73 notification.

Major alterations

- 4.2 The owners' submission included an analysis of previous determinations that list factors that are useful to consider when deciding whether building work amounts to major alterations. The owners' assessment is summarised in table 1, and concludes that the proposed building work does not amount to major alterations.

Factors	In relation to the property
The size of the alteration in comparison to the existing building.	The size of the addition in comparison to the existing building is an extra 38m ² or a 30 per cent increase.
The percentage increase of the building footprint and the site coverage.	With the removal of the 22.3m ² sleep out, the overall site coverage is only an increase of 15.7m ² or a 2.6 per cent increase.
The complexity of the construction that is to be undertaken together with its intended use and the degree of design involved.	The design and construction of the extension can be described as simple. Besides an engineer having to design a portal frame, everything else is as per NZS3604:2011, with standard piles ²¹ , timber subfloor, wall and roof framing, with lightweight roof and wall cladding. It is also a single storey dwelling.
Whether allowances have been made for the replacement of existing structures with new work.	Part of the extension is a replacement of the existing lean-to of 21m ² .
Whether the building work to be completed is likely to be affected by the hazard condition (i.e. can the effects of the hazard be mitigated by a specific design?)	The alterations to the dwelling include adequate provision to protect the building.

Table 1: Factors to consider whether building work amounts to “major alterations”

- 4.3 The owners stated, “Repiling the [dwelling] should not be classed as a major alteration. If the owners were to just repile the [dwelling], this would be granted under section 49 of the Act”.
- 4.4 The owners also contend that, if they applied for building consents for each of these alterations individually (e.g. “repile, lean-to demolish, extension, altering internal walls”), those consents would be granted under section 49 with no section 73 notification.

²¹ I note here that some of the timber and concrete piles are specific engineer designs, and are not in accordance with NZS 3604:2011.

Natural hazard

4.5 The owners state:

The natural hazard of rain water is not an explicit hazard^[22] and it may or may not occur in the future...the [owners] do not believe an event that may or may not occur, and if it does it would be minor or trivial, should be memorialized on the Certificate of Title.

4.6 The owners are of the view that a 1 per cent AEP event which *may* result in a maximum depth of 400 mm water on the property should be classed as a “minor or trivial” event and, therefore, not a natural hazard. In addition, the velocity of water at less than 0.2 m/s would not erode the land or destabilize the building.

4.7 The owners note that a natural hazard is not required to be fully eliminated from the land.

Protection of the land and building work

4.8 The owners state “the design of the [dwelling] cannot be modified to stop the effects of rain water or storm water run-off on to the property”, but contend adequate provision has been made to protect the building work by:

- raising the dwelling an extra 120 mm (from 480 mm to 600 mm above ground level)
- piles being driven down into the ground to a depth between 900 mm and 1100 mm
- the building work’s compliance with the Building Code.

4.9 The owners submit that adequate provision has been made to protect the land from the natural hazard by:

- removing the existing sleep-out of 22.3m² (and the concrete pad underneath)
- removing no less than 117.8m² of impervious surfaces (a reduction of approximately 68 per cent, calculated on the basis of 174m² of impervious surfaces “pre renovations”, down to 56.2m² of impervious surfaces “post renovations”), namely concrete under the existing deck, a patio area, and pathways to enable sufficient natural drainage on the property
- retaining the portable garden shed of 6.9m² on wooden skids that allows for drainage underneath.

4.10 The owners believe that adequate provision has been made to the land and the building work to protect both from future inundation events, and that the building consent should therefore be granted without a section 73 notification.

The authority

4.11 The authority maintains the view that the natural hazards provisions apply and that the building consent should be granted with a section 73 notification.

Major alterations

4.12 The authority provided the following explanation of its assessment to decide whether the proposed building work constitute “major alterations”:

In addition to the extension, substantial internal alterations are proposed to the existing section of the dwelling and a total re-pile of the existing dwelling is proposed.

²² “Rain water” is not referred to in section 71(3).

This was considered in addition to the [extended] floor area. [The authority] considered that parts of these works may possibly be considered comparable to Schedule 1^[23] in nature and intent. However, [the authority's] assessment considered the sum of the proposed works in the alteration of the building. [The authority] consider these works to further reinforce that this is more akin to a 'major alteration' than a 'minor alteration' when considering the total scope of works.

- 4.13 The authority included reference to previous determinations (2011/034 and 2017/055), and a detailed analysis against certain clauses of both the previous²⁴ and current²⁵ versions of Schedule 1 of the Act. The authority considered:
- an addition of over 20m² as implied by clause 18 of the previous Schedule 1 of the Act “can be considered ‘major’”
 - clause 18 of the previous Schedule 1 of the Act was related to a “non-habitable space”, and “not related to the addition of [a] habitable space” as in this instance
 - the construction complexity of the proposed alteration and additions to the dwelling differ from those typically considered under Schedule 1 of the Act
 - the area of the extension is approximately 56m², but allowing for the removal of the approximately 20m² of the existing lean-to, the additional floor area was 36m²
 - the area of the existing and proposed decks was not included, because this is work that is exempt under Schedule 1 of the Act
 - it did not take into account the floor area of the existing shed, sleep out, or garage and carport, as these did not affect the extent of the alteration to the dwelling
 - accepting a 36m² increase to the floor area, of an existing 124m² building, means a 29 per cent increase to the building footprint which it deems “to be more akin to a major alteration”
 - it calculated the site coverage of the existing dwelling to be 20.3 per cent, and the proposed to be 26.3 per cent. The authority went onto state “given [a] 36m² addition and 29 per cent increase to the building’s footprint [it considered] that despite a 6 per cent increase in site coverage this is more akin to a major alteration than a minor alteration”
 - the nature and intent of the proposed work differ too significantly from work exempt under Schedule 1 of the Act
 - the effect of clauses 3A, 3B, 43 and 18A²⁶ of the current Schedule 1 that show certain types of buildings could be up to 30m² and 40m² in area and be exempt from requiring a building consent
 - determining “major alterations” is not just limited to additional floor area, and that other factors need to be considered.

²³ Schedule 1 of the Act provides for building work for which building consent is not required.

²⁴ As at 1 April 2020 – as it coincides with date of building consent application.

²⁵ As at 31 August 2020 – as it coincides with date of application for determination.

²⁶ Refer to Appendix A: Schedule 1 clauses 3A, 3B, 18A and 43.

Natural hazard

- 4.14 The authority confirmed the nature of the inundation on the site was as a result of flooding, and stated that previous flood modelling information for an adjacent property “shows that the flooding in [the] area is related to overland flow”.
- 4.15 The authority’s assessment of whether the site is subject to, or likely to be subject to, inundation was based on depth of flooding (500 mm)²⁷ and flow rate (less than 0.2 m/s) in a 1 per cent AEP event. It did not consider the duration of the flooding at the time the building consent was processed. Regardless, the authority is of the view that the land is subject to inundation that is more than minor or trivial and, therefore, constitutes a natural hazard.
- 4.16 In an email to the Ministry on 27 October 2020, the authority provided commentary on the likely duration of the flooding. Referring to the flood modelling data (in Appendix C), the authority stated “the data shows that the time from when the flooding begins to when it has subsided to a stable level occurs over an approximate 7 hour period. After this period the flooding does not completely subside and flood waters to a depth of [approximately] 150 mm remain on the deepest areas on the site for an undisclosed period beyond the event”.
- 4.17 The authority noted the soil conditions for this particular site had not been considered. While the building consent application included information on the basic soil type/structure for the purpose of foundation design, no site specific alternative assessment of the flooding was provided by the owners.

Protection of the land and buildings

- 4.18 The authority considers that raising the floor level was sufficient to mitigate against the risk of flooding to the building work. It confirmed “that adequate protection of the building work from the natural hazard has been provided as compliance with the [Building Code], specifically with [clauses] B1 [Structure], B2 [Durability] and E1 [Surface water]” had been demonstrated.
- 4.19 In an email to the Ministry dated 13 October 2020 the authority stated:
- The [owners’ engineer] provided comment regarding the possible effects of the hazard on the stability of the foundations. The effects of the hazard on the land and foundations were deemed unlikely to undermine the stability of the structure in such an event. Any damage caused could be remediated via the expected repairs and maintenance required after such an event. As we believe compliance with the [Building Code] is established with consideration of the flooding that the performance will therefore not be affected by the hazard as above.
- 4.20 However, the authority contends that whilst elevating the floor level may be adequate to mitigate the risk of flooding to the building work, the risk of flooding to the land had not been addressed, and that no measures for protecting the land were provided by the owners in the building consent process. Regardless, the authority did confirm:
- Given the scope of the proposed building work [the authority’s] understanding would be most of the paved/hard surfaces to the rear of the dwelling will be demolished to allow for the extension. Therefore, it is likely most of the area where flooding [would occur] would not be hard surfaces such as paving/concrete.

²⁷ The flood modelling data contained in Appendix C from the regional water services company indicates a maximum depth of water of approximately 410 mm in the deep area of the site.

5. Legislation

- 5.1 Under section 49(1), a building consent authority must grant a building consent if it is satisfied that building work complies with the Building Code. However, if the building work is on land that is subject to one or more natural hazards, sections 71 to 74 (“the natural hazard provisions”) must be applied by the authority.
- 5.2 Section 71(3) sets out the types of natural hazards that trigger the natural hazard provisions, and these include inundation²⁸.
- 5.3 Under section 71(1), a building consent authority must refuse to grant a building consent for the construction of a building, or major alterations to a building, if the land on which the building work is to be carried out is subject to one or more natural hazards, or the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property. However, the Act goes on to provide exceptions to this requirement.
- 5.4 Section 71(1) must be put to one side if the building consent authority is satisfied that adequate provision has been, or will be made, to protect the land, the building work, or other property from natural hazards, or restore any damage to that land or other property as a result of the building work.²⁹ In these circumstances a building consent must be granted under section 49(1) with no section 73 notification.
- 5.5 If adequate provision under section 71(2) cannot be made, the Act provides another way for building consent to be granted. Under section 72 a building consent must be granted if certain criteria are satisfied, even though the land on which the work is to occur is subject to one or more natural hazards.
- 5.6 Section 73 sets out the conditions that building consent authorities must include in a building consent when it is granted under section 72. Those conditions include the granting of the building consent with a section 73 notification.

Purpose of the natural hazards provisions (sections 71-74)

- 5.7 The purpose of the natural hazards provisions is to protect building work, land and other property from the effects of natural hazards by placing limits on the granting of building consents for building work undertaken on land that is subject to one or more natural hazards.
- 5.8 The legislative policy of the provisions was discussed by the Court of Appeal in *Logan v Auckland City Council* (2000) 4 NZ ConvC 193,184. In that case the Court considered the interpretation of, and relationship between, the equivalent of sections 71 and 72 in the former Building Act³⁰. The Court explained the policy in the following terms (note that I have changed the legislative references to reflect the provisions in the Act which are now in force):

[31] [Our analysis of the construction of sections 71 and 72] reflects an understandable legislative policy that where a building is to be constructed or major alterations to a building are to be made, it is not reasonable to issue a building consent as [a matter] of course unless adequate provision is made to protect the land concerned as well as the building work itself from the listed hazards. And if that requirement cannot be satisfied, [section 72] goes on to provide the flexibility to allow for the issue of a building consent if the set requirements of paras (a), (b) and (c) of [section 72] are met with notice to the world then being given through the entry on the

²⁸ Section 71(3)(d).

²⁹ Section 71(2).

³⁰ Building Act 1991.

title and with consequential exemption from civil liability of the [building consent] authority [under section 392(3)].

5.9 Put another way, the provisions ensure natural hazards are taken into account whenever a building consent is considered. In circumstances where adequate provision to protect the land or building work from natural hazard cannot be made, but the building work will not accelerate or worsen the natural hazard, the provisions serve to:

- place a notification on the record of title for the property so that future purchasers and other interested parties are made aware of the natural hazard concerned and that the building consent has been granted under section 72
- confirm that the building consent authority has considered the natural hazard when granting a building consent
- give a building consent authority certain protections from liability relating to its decision to grant a building consent despite the natural hazard.³¹

6. Discussion

6.1 The matter to be determined is the authority's proposed decision to grant the building consent subject to a section 73 notification. The authority is of the view that a section 73 notification is required. The owners contend that it is not.

Natural hazards decision tree

6.2 In the course of preparing previous determinations a natural hazards decision tree has been developed to clarify the steps involved in applying the natural hazards provisions. It is important to note that the decision tree is a simplified tool and there will be a number of factors that need to be considered at each step of the process in any given case.

6.3 A decision tree was provided by the authority to the owners and is contained in Appendix B.³²

Building Code

6.4 Following the process outlined in the natural hazards decision tree, the first question that needs to be considered is whether the building work would comply with the Building Code if there was no natural hazard present.

6.5 I have not received any information that indicates that the proposed building work would not comply with the Building Code in the absence of any natural hazard. That being so, the next question to consider is whether section 71 applies in this case.

Building on land subject to natural hazard – section 71

6.6 For section 71 to apply, the building work for which consent is being sought must either be construction of a building or “major alterations”.

6.7 In this case the building work relates to the alterations of an existing building. The owner contends that it is not major alterations, while the authority says it is. Therefore, I need to consider whether the proposed building work amounts to “major alterations”.

³¹ Section 392(2) and (3) provide that if a building consent is issued subject to a section 73 notification, and the building is damaged by the natural hazard, then the building consent authority is not liable in any civil proceedings.

³² This version of the decision tree is taken from previous determination 2018/057. It contains additional notes (see the text numbered 1 to 4 which appears inside rectangles with grey coloured dash line borders) which are *not* relevant to this case.

Meaning of major alterations

6.8 There is no definition of “major alterations” in the Act. However, section 7 does define “alter” as:

Alter in relation to a building, includes to rebuild, re-erect, repair, enlarge, and extend the building.

6.9 It follows that alterations include rebuilding, enlargement or extension of a building. I am satisfied that the proposed building work is alterations.

6.10 As there is no definition of “major” or “major alterations” in the Act it is appropriate to consider the natural and ordinary meaning of this term. The Oxford English dictionary³³ defines the adjective “major” as “greater in size, importance, etc. Designating the greater (in various senses) or relatively greater of or of two things, classes, etc., that have a common designation (opposed to minor). Also: unusually important, serious or significant; main, chief, principal, leading”.

6.11 Considering this definition of “major”, I am of the view that alterations will be major if they are significant in the context of, and relative to, the building and the site they relate to. I also consider that the terms “major” and “major alterations” should be interpreted in light of the purposes and principles of the Act.

Factors for assessing whether building work is “major alterations”

6.12 I am of the view that the assessment – whether the building work is “major alterations” – is a matter of fact and degree which requires me to consider relevant factors together as a whole (i.e. in their totality). The weight to be given to each factor will depend on the circumstances in the case; and it is unlikely that any one factor would be determinative by itself.

6.13 Previous determinations have identified factors which they took into account when they assessed whether building work is “major alterations”³⁴. In my view the following factors considered in previous determinations are relevant in this case:

- the degree to which the proposed building work differs from building work that would be exempt from requiring a building consent in terms of Schedule 1 of the Act. Major alterations are likely to be significantly different in nature and extent from the type of building work exempt under Schedule 1 of the Act.
- the intended use, degree of design and construction complexity
- the size of the alteration compared with that of the existing building
- the increased footprint of the building, and the percentage increase in site coverage
- allowance for the replacement of existing structures with new work.

6.14 I note that I am not bound by previous determinations in the same way a court is bound by the decisions of a higher court. That being so, I can take them into account if I think the circumstances are sufficiently similar. I also note that the factors listed above are not an exhaustive list and I can take into account any other factors I consider relevant in this case.

6.15 Other factors I consider are relevant in this case include:

³³ From the Oxford English Dictionary at www.oed.com as at 11 January 2021.

³⁴ See determinations 2011/034; 2017/055; 2019/059; 2020/024.

- the combined effect of all the building work associated with the building consent as described in paragraph 2.11 (regardless of whether some of the building work may be exempt under Schedule 1, or whether some of the building work is unlikely to be affected by the natural hazard)
 - building work that involves the moving of an existing building horizontally and/or vertically, either on the same Lot, or onto a different property.
- 6.16 The owners and the authority provided a detailed analysis of how they had interpreted the factors listed in paragraph 6.13, and how these influenced their respective views on whether the proposed building work amounts to major alterations or not (see paragraphs 4.2 and 4.13).
- 6.17 Whether the building work constitutes major alterations is a factual inquiry, decided on a case by case basis. Previous determinations can provide guidance, but ultimately each inquiry requires consideration of the factors that are relevant to that particular case.

Application of these factors to this case

- 6.18 In assessing whether the proposed building work is “major alterations” for the purposes of the Act, I make the following observations.

Comparison with Schedule 1 exemptions

- 6.19 Previous determinations have considered the degree to which building work (in those determinations) differed from exempt building work under Schedule 1. In my view it is appropriate to undertake such comparison in this case.
- 6.20 I note that Parliament added further exemptions into Schedule 1 of the Act on 31 August 2020.³⁵ I am of the view that the principles that underlie Schedule 1 of the Act remain the same, despite these changes. The further exemptions were made available for low-risk building work only (as remains the case for the pre-existing exemptions), and all exempted building work must still comply with the Building Code to the extent required by the Act³⁶. In light of this, I consider it appropriate to compare the proposed building work with exempted building work as it appears in Schedule 1 of the Act on 31 August 2020.
- 6.21 Based on the plans and specifications received from the owners, there are elements of the proposed building work that would be considered exempt under Schedule 1 of the Act. These include, but are not limited to:
- building work in connection with some of the non-loadbearing and unbraced internal walls in the existing building³⁷
 - some of the internal linings and finishes in the existing building³⁸
 - construction of the new porch³⁹
 - construction of the new deck⁴⁰

³⁵ These clauses were inserted into Schedule 1 of the Act by the Building (Exempt Building Work) Order 2020. They allow for more building work to be undertaken without the owner having to first obtain a building consent. For single-storey detached buildings, for example, a larger floor area than was previously allowed can be constructed without a building consent in certain specified circumstances (see Schedule 1 of the Act, clauses 3A, 3B and 43). Like the pre-existing exemptions they were added to, the new exemptions are subject to certain limitations; for example, clauses 3A, 3B and 43 are not available for building work undertaken on detached buildings that have sanitary facilities, facilities for the storage of potable water, or contain any cooking facilities or the like.

³⁶ Section 42A(2).

³⁷ Schedule 1 of the Act, clause 11.

³⁸ Ibid, clause 12.

³⁹ Ibid, clause 17.

- demolition of the sleep-out⁴¹
 - demolition of the existing chimney⁴².
- 6.22 However, there are other elements of the proposed building work that would not be exempt under Schedule 1 of the Act. These include, but are not limited to:
- the construction of the new extension
 - the new structural bracing to the internal and external walls
 - the specific engineer design portal frame and beams
 - the new plumbing and drainage
 - installing thermal insulation to the external walls of the existing building.
- 6.23 As to the re-piling, I have received conflicting information from the parties about the extent to which the building will be raised. However, it is clear to me that the owner intends to raise the building and that the building work would involve the lifting and re-piling of the whole building. This aspect of the building work would not be exempt under Schedule 1 of the Act.
- 6.24 Considering all the elements of the building work together as a whole, I am of the view that they are significantly different in nature and extent from the type of building work exempt under Schedule 1.
- Intended use, degree of design and construction complexity***
- 6.25 The intended use of the building is unchanged; it is still a detached residential dwelling (i.e. for human habitation).
- 6.26 For the most part, the nature of the proposed building work (despite being reasonably extensive for an alteration) is not overly complex, nor does it appear to contribute significantly to an increase in the overall complexity of the building. The only aspects that are moderately complex are the specific engineer design elements of the re-piling of the foundations, and the steel portal frame and beams which will form the new extension.
- The size of the alteration compared with existing structures***
- 6.27 The net increase in the size of the main dwelling is close to being one third bigger than the size of the existing dwelling (see paragraph 2.18).
- Increase in building footprint and site coverage***
- 6.28 Excluding the deck, the footprint of the main dwelling is being increased by approximately 59.47m² (see paragraph 2.12).
- 6.29 The site coverage is also being increased by approximately 1.63 per cent (see paragraph 2.20).
- 6.30 The building is also being extended to the west side of the property (after the removal of the existing lean-to) by between 3.4m to 4.2m. This is relevant to my assessment because this is the area of the site where the greatest level of flooding (maximum depth of water) is likely to occur (see figure 6).

⁴⁰ Ibid, clause 24.

⁴¹ Ibid, clause 30.

⁴² Ibid, clause 31.

- 6.31 The floor area of the new building works, at approximately 59.47 m² (excluding the new deck), far exceeds building work that could reasonably be attributed to Schedule 1 of the Act for a habitable building. Therefore, in my view, this is significant in nature.

Allowance for the replacement of existing structures

- 6.32 A portion of the new extension and deck replaces the existing lean-to and the old deck (see paragraph 2.16 and table 1).
- 6.33 In considering whether the work constitutes major alterations, I have placed little weight on the removal of the separate sleep-out. Other than affecting the overall site coverage, it has no direct bearing on the alterations or the extension to the existing dwelling.

Moving the entire dwelling

- 6.34 I note that the whole building is being lifted, and moved horizontally, and new piled foundations constructed.⁴³ In my view this is significant in nature.

Combined effect of all the building work together

- 6.35 Considering all the elements of the building work together as a whole (see paragraph 2.11), I am of the view that they are major and significant in this case.

Conclusion

- 6.36 Having considered all the factors above, I am of the view that the proposed building work amounts to alterations which are significant in the context of, and relative to, the building and the site. As such, I find the building work to be “major alterations” for the purposes of section 71(1).

Building on land subject to natural hazards

- 6.37 As I am satisfied that the building work amounts to “major alterations”, I now need to turn my mind to whether the land in question is likely to be subject to one or more natural hazards, or the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property.

71 Building on land subject to natural hazards

- (1) A building consent authority must refuse to grant a building consent for construction of a building, or major alterations to a building, if—
- (a) the land on which the building work is to be carried out is subject or is likely to be subject to 1 or more natural hazards; or
 - (b) the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property.
- 6.38 Firstly, I will consider whether the land where the building work is being carried out is subject to, or is likely to be subject to, a natural hazard – section 71(1)(a).
- 6.39 Section 71(3)(a) to (e) specifies events which are a ‘natural hazard’ for the purposes of the Act. In this case, the natural hazard is the occurrence of inundation as stated in section 71(3)(d).

⁴³ The existing building is being lifted higher from its current position to mitigate the effects of the natural hazard. It is also being moved 100 mm horizontally on the site, although not for reasons related to the natural hazard.

71 Building on land subject to natural hazards

.....

- (3) In this section and sections 72 to 74, **natural hazard** means any of the following:

.....

- (d) inundation (including flooding, overland flow, storm surge, tidal effects, and ponding).

6.40 I disagree with the owners' view that inundation by way of rainwater and/or storm water run-off should not be considered a natural hazard. I am of the view that flooding and ponding can be caused by excessive rainwater or storm-water runoff. I note the Building Code Clause A2 defines surface water as:

...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.

6.41 I note the Act does not provide minimum levels as to the probability or likelihood of natural hazards occurring. With respect to inundation, previous determinations⁴⁴ have taken the approach that a 1 per cent AEP event would satisfy the requirement in section 71(1) that the "land on which the building work is to be carried out is **likely** [my emphasis] to be subject to [inundation]", and I maintain that view.

6.42 Based on the evidence before me in this case, it is clear that a large proportion of the property is likely to be subject to inundation. However, previous determinations were of the view that it is not sufficient for the property in general to be subject to a natural hazard. Instead, the land affected by the hazard must be that where the building work is being carried out; put another way, that part of the land that is subject to the natural hazard must be "intimately connected" with the building work.⁴⁵ In deciding whether there is an intimate connection between the land and building work, I have turned my mind to the following considerations:

- the size of the property relative to the area occupied by the building work
- the position of the building work on the property relative to that part of the land affected by the hazard.

6.43 Considering these factors in relation to the circumstances in this case, it is my view that the land affected by inundation is intimately connected with the proposed building work (i.e. the owners' alterations).

6.44 The flood modelling data from regional water service company indicates that the greatest depth of flooding that is likely to occur will be to the rear (west) half of the property, and this is the area where the construction of the new extension to the existing dwelling is to occur. This is despite the building being lifted and new piled foundations constructed to prevent the dwelling being affected directly by flooding.

6.45 With a natural hazard in this case being inundation, it is important that the design of the building substructure (i.e. below finished floor level) is of sufficient durability so that it will continue to comply with the Building Code (e.g. clauses B1 Structure, and B2 Durability, and E1 Surface water) whilst recognising the potential for surface water to extend under the building footprint. In this regard consideration would need to be given to the durability of the subfloor timbers and fixings, and of the material and loadbearing characteristics of any subsoils that are likely to be effected when

⁴⁴ For example, see Determination 2019/034, paragraph 6.2.2.

⁴⁵ See Determination 2008/082, paragraphs 6.2.4 to 6.2.6 which refer to *Auckland City Council v Logan* (HC).

wet. The design should also consider grading the surfaces to allow water associated with any inundation to drain away as the flooding recedes without water ponding in the subfloor space. This is particularly relevant in this case where figure 6 indicates varying depths of inundation under both the existing building as well as in the area of the proposed building. This is relevant where it is appropriate to put in place measures that could prevent condensation that is created by evaporating water coming into contact with the subfloor surfaces.

- 6.46 Although this protects the building (with the exception of the piled foundations themselves), it does not prevent the land intimately connected with the building work from being likely to be subject to inundation.
- 6.47 The owners say that consideration also needs to be given to whether the inundation would be more than minimal or trivial. Previous determinations⁴⁶ made use of this assessment and I am of the view it is appropriate in this case.
- 6.48 I note determination 2019/034⁴⁷ which found:
- In the 1% AEP event, the model shows flooding to depths between 0.2 to 0.3m directly adjacent to the [dwelling], and flooding to 0.45 in the surrounding area. I consider the inundation is more than minimal or trivial...
- 6.49 By comparison, in this case the flood modelling data provided by the regional water service company indicates maximum depths of flooding up to 410 mm in the deep area of the site, and 210mm in the shallow area of the site. The same data also appears to indicate that flooding depths above 140 mm in the deep area of the site are likely to last over a period of approximately 7 hours, with no clear indication as to when the flood waters would recede completely (see Appendix C). I consider the inundation is more than minimal or trivial in this case.
- 6.50 As such, the land on which the building work is to be carried out is likely to be subject to a natural hazard and, in the event of such a natural hazard, it would be more than minor or trivial; therefore, I find that the criterion in section 71(1)(a) is satisfied.
- 6.51 Secondly, I note the authority and the owners stated the building work will not accelerate, worsen, or result in a natural hazard on that land or other property (see the decision tree in Appendix B). I agree with the parties. As such, section 71(1)(b) does not apply in this case.

Adequate provision

- 6.52 I have reached the view that the land on which the building work is to be carried out is likely to be subject to a natural hazard under section 71(1)(a). I now turn my mind to whether adequate provision has been or will be made to protect the land and the building work from the natural hazard, or restore any damage to that land or other property as a result of the building work.⁴⁸ If so, section 71(1) must be put to one side and a building consent must be granted under section 49(1) with no section 73 notification.
- 6.53 I note that previous determinations have taken the view that compliance with the Building Code will be accepted as “adequate provision” to protect the building work⁴⁹.

⁴⁶ For example, Determinations 2019/034 and 2013/081.

⁴⁷ At paragraph 6.2.3.

⁴⁸ Section 71(2)(a).

⁴⁹ Determination 2017/080, paragraph 5.2.5.

- 6.54 The authority and owners have both expressed the view that adequate provision will be made to protect the *building work* from the natural hazard, and that the proposed building work complies with the Building Code (this includes raising the level of the building and constructing new piled foundations). I have seen no information from either of the parties that would cause me to question this conclusion.
- 6.55 However, section 71(2)(a) also requires adequate provision to be made to protect the *land*.
- 6.56 The High Court in *Auckland City Council v Logan* HC Auckland AP77/99, 1 October 1999 noted that the words “protect the land” should be read as an obligation to protect against the inundation of “the site itself where, at least [in that case], the building and the site are intimately connected”.⁵⁰
- 6.57 It is clear from the flood modelling data provided to me and from figures 5 and 6 that the area of the property that will be affected most by any inundation will be the west half of the property, including in the area of the new extension and timber deck.
- 6.58 The level of protection from inundation required to satisfy section 71(2)(a) will be a question of degree and will need to take into account factors such as maximum depth, velocity, frequency of occurrence, and the likely effects of the natural hazard on the land. That degree of protection is likely to be less than that required to protect buildings, although this will not be the case where there is significant risk of erosion causing loss of support for the building. I have not been provided with any information about the property that would lead me to that conclusion.
- 6.59 Based on information before me, I have also considered the general topography and geology of the site.
- 6.60 The owners have listed measures they believe will assist in protecting the land. This includes demolishing an existing 22.3m² sleep out and an associated concrete pad, and removing an area of approximately 96m² of existing concrete hardstandings as part of the building work.
- 6.61 The 18m² of concrete path to the north of the dwelling is being removed so the dwelling can be relocated 100 mm. The owners have not indicated whether this path is to be reinstated after the building work is completed. Even if the path is not reinstated, this will only marginally increase the area of pervious surface, bearing in mind the minimal depth of flood water in this part of the site.
- 6.62 There are two narrow strips of concrete path to the west side of the property that are used to access the existing gate in the boundary fence and sleep-out. The owners have stated these paths are approximately 16.2m² in area. However, these narrow paths represent a very small portion of the deep area of the site, and once removed, are only likely to contribute marginally to the drainage of any flood water in this area.
- 6.63 I also note that more than 50m² of the impervious surfaces will be replaced by the new extension and deck (including a new concrete plinth to support the steps up to the new deck). The fact that the new extension and deck are to be constructed using piled foundations will mean it is reasonable to assume that some additional drainage of flood waters could be expected in this area.

⁵⁰ As paraphrased by the Court of Appeal in *Logan v Auckland City Council* (HC) at paragraph [18].

- 6.64 The removal of the sleep out and the concrete pad on which it sits does decrease the area of impervious surface but not significantly in terms of the overall site coverage, and it is sited away from the deep area of the site.
- 6.65 The owners also refer to the existing 6.9m² garden shed being on skids that allow for drainage underneath. This building will not be altered by the proposed building work and, as such, whatever drainage is currently possible in this area remains unaffected.
- 6.66 I note that the land, upon completion of the building work, will continue to be subject to inundation to the extent described above. I also note that the area that may allow for improved drainage will increase to some degree as a result of the building work, but that this would only have a limited effect on any flood waters.
- 6.67 Therefore, I am of the view that adequate provision will not be made to protect the land and, as such, this requirement of section 71(2)(a) is not satisfied.

Building consent for building on land subject to natural hazards must be granted in certain cases

- 6.68 As the requirement in section 71(2) to protect the land has not been met, I now need to consider whether a building consent must be granted under section 72.

72 Building consent for building on land subject to natural hazards must be granted in certain cases

Despite section 71, a building consent authority that is a territorial authority must grant a building consent if the building consent authority considers that—

- (a) the building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property; and
- (b) the land is subject or is likely to be subject to 1 or more natural hazards; and
- (c) it is reasonable to grant a waiver or modification of the building code in respect of the natural hazard concerned.

- 6.69 Both parties have stated that the building work in this case will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property. I have not received any information to the contrary. As such, I accept the criteria in subsection 72(a) is met.
- 6.70 I am satisfied that the land is subject to a natural hazard, namely inundation and, as such, the criteria in subsection 72(b) is met.
- 6.71 Regarding section 72(c), a waiver or modification has not been sought by the owner, and as such, it requires the building consent to be granted under section 72 (see Appendix B). Equally, even if the owners had applied for a waiver or modification, and the authority considered it reasonable to grant one, the process would still lead to same outcome.
- 6.72 Therefore, I am of the view that the authority correctly proposed to grant the building consent under section 72.

Conclusion

- 6.73 I consider that:
- the proposed building work at the property constitutes “major alterations” for the purposes of section 71(1)

- the land on which the building work is to be carried out is likely to be subject to a natural hazard, namely inundation (sections 71(1)(a) and 71(3)(d))
- the building work is unlikely to accelerate, worsen, or result in a natural hazard on that land or any other property (section 71(1)(b))
- adequate provisions will be made to protect the building work from the natural hazard, but adequate provisions will not be made to protect the land from natural hazard (section 71(2)(a))
- the authority correctly proposed to grant the building consent under section 72 subject to a section 73 notification.

7. The decision

7.1 In accordance with section 188 of the Building Act 2004, I determine that the authority correctly proposed to grant the building consent, for proposed building work at 45 Darlington Road, Miramar, Wellington, under section 72 and subject to the consent being notified to the Registrar-General of Land under section 73. I confirm the authority's proposed decision.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 28 June 2021.

Katie Gordon
National Manager, Determinations

Appendix A: Building Act 2004

49 Grant of building consent

- (1) A building consent authority must grant a building consent if it is satisfied on reasonable grounds that the provisions of the [building code](#) would be met if the building work were properly completed in accordance with the plans and specifications that accompanied the application.

71 Building on land subject to natural hazards

- (1) A building consent authority must refuse to grant a building consent for construction of a building, or major alterations to a building, if—
- (a) the land on which the building work is to be carried out is subject or is likely to be subject to 1 or more natural hazards; or
 - (b) the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property.
- (2) Subsection (1) does not apply if the building consent authority is satisfied that adequate provision has been or will be made to—
- (a) protect the land, building work, or other property referred to in that subsection from the natural hazard or hazards; or
 - (b) restore any damage to that land or other property as a result of the building work.
- (3) In this section and [sections 72 to 74](#), **natural hazard** means any of the following:
- (a) erosion (including coastal erosion, bank erosion, and sheet erosion):
 - (b) falling debris (including soil, rock, snow, and ice):
 - (c) subsidence:
 - (d) inundation (including flooding, overland flow, storm surge, tidal effects, and ponding):
 - (e) slippage.

72 Building consent for building on land subject to natural hazards must be granted in certain cases

Despite [section 71](#), a building consent authority that is a territorial authority must grant a building consent if the building consent authority considers that—

- (a) the building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or any other property; and
- (b) the land is subject or is likely to be subject to 1 or more natural hazards; and
- (c) it is reasonable to grant a waiver or modification of the [building code](#) in respect of the natural hazard concerned.

73 Conditions on building consents granted under section 72

- (1) A building consent authority that is a territorial authority that grants a building consent under [section 72](#) must include, as a condition of the consent, that the building consent authority will, on issuing the consent, notify the consent to,—
 - (a) in the case of an application made by, or on behalf of, the Crown, the appropriate Minister and the Surveyor-General; and
 - (b) in the case of an application made by, or on behalf of, the owners of Māori land, the Registrar of the Maori Land Court; and
 - (c) in any other case, the Registrar-General of Land.
- (2) The notification under subsection (1)(a) or (b) must be accompanied by a copy of any project information memorandum that has been issued and that relates to the building consent in question.
- (3) The notification under subsection (1)(c) must identify the natural hazard concerned.

74 Steps after notification

- (1) On receiving a notification under [section 73](#),—
 - (a) the Surveyor-General or the Registrar of the Maori Land Court, as the case may be, must enter in his or her records the particulars of the notification together with a copy of any project information memorandum that accompanied the notification:
 - (b) the Registrar-General of Land must record, as an entry on the record of title to the land on which the building work is carried out,—
 - (i) that a building consent has been granted under [section 72](#); and
 - (ii) particulars that identify the natural hazard concerned.
- (2) If an entry has been recorded on a duplicate of the record of title referred to in subsection (1)(b) under [section 641A](#) of the Local Government Act 1974 or section 36 of the former Act, the Registrar-General of Land does not need to record another entry on the duplicate.
- (3) Subsection (4) applies if a building consent authority determines that any of the following entries is no longer required:
 - (a) an entry referred to in subsection (1)(b):
 - (b) an entry under [section 641A](#) of the Local Government Act 1974:
 - (c) an entry under section 36 of the former Act.
- (4) The building consent authority must notify the Surveyor-General, the Registrar of the Maori Land Court, or the Registrar-General of Land, as the case may be, who must amend his or her records or remove the entry from the record of title.

392 Building consent authority not liable

- (1) No civil proceedings may be brought against a building consent authority for anything done or omitted to be done in good faith in reliance on any of the following documents:
 - (a) an acceptable solution or a verification method:
 - (b) a determination made by the chief executive under [subpart 1](#) of Part 3:
 - (c) a current product certificate issued under [subpart 7](#) of Part 3:

- (ca) a current national multiple-use approval issued under [section 30F](#) (including, in any particular case, any minor customisations permitted by regulations made under [section 402\(1\)\(kc\)](#)):
 - (d) a code compliance certificate issued under [section 95](#):
 - (e) a certificate issued under any regulations made under the [Electricity Act 1992](#) or the [Gas Act 1992](#).
- (2) Subsection (3) applies if—
- (a) a building consent has been issued under [section 72](#); and
 - (b) the building consent authority has given a notification under [section 73](#); and
 - (c) the building consent authority has not given a notification under [section 74\(4\)](#) that it has determined that the entry made on the record of title of the land is no longer required; and
 - (d) the building to which the building consent relates suffers damage arising directly or indirectly from a natural hazard.
- (3) The persons specified in subsection (4) are not liable in any civil proceedings brought by any person who has an interest in the building referred to in subsection (2) on the grounds that the building consent authority issued a building consent for the building in the knowledge that the building for which the consent was issued, or the land on which the building was situated, was, or was likely to be, subject to damage arising, directly or indirectly, from a natural hazard.
- (4) The persons are—
- (a) the building consent authority concerned; and
 - (b) every member, employee, or agent of that building consent authority.

Schedule 1

3A Single-storey detached buildings exceeding 10, but not exceeding 30, square metres in floor area and constructed of lightweight material

- (1) Building work in connection with any detached building that—
- (a) is not more than 1 storey (being a floor level of up to 1 metre above the supporting ground and a height of up to 3.5 metres above the floor level); and
 - (b) exceeds 10 square metres in floor area, but does not exceed 30 square metres; and
 - (c) is built using lightweight wall and roof materials, and in accordance with Acceptable Solution B1/AS1 for timber or steel buildings; and
 - (d) does not contain sanitary facilities or facilities for the storage of potable water; and
 - (e) does not include sleeping accommodation, unless the building is used in connection with a dwelling and does not contain any cooking facilities; and
 - (f) if it includes sleeping accommodation, has smoke alarms installed.
- (2) However, subclause (1) does not include building work in connection with a building that is closer than the measure of its own height to any residential building or to any legal boundary.

3B Single-storey detached buildings exceeding 10, but not exceeding 30, square metres in floor area if work carried out or supervised by licensed building practitioner

- (1) Building work in connection with any detached building if—
- (a) any design or construction work is carried out or supervised by a licensed building practitioner; and
 - (b) the building—
 - (i) is not more than 1 storey (being a floor level of up to 1 metre above the supporting ground and a height of up to 3.5 metres above the floor level); and
 - (ii) exceeds 10 square metres in floor area, but does not exceed 30 square metres; and
 - (iii) does not contain sanitary facilities or facilities for the storage of potable water; and
 - (iv) does not include sleeping accommodation, unless the building is used in connection with a dwelling and does not contain any cooking facilities; and
 - (v) if it includes sleeping accommodation, has smoke alarms installed.
- (2) However, subclause (1) does not include building work in connection with a building that is closer than the measure of its own height to any residential building or to any legal boundary.

18A Carports exceeding 20, but not exceeding 40, square metres in floor area

Building work in connection with a carport if—

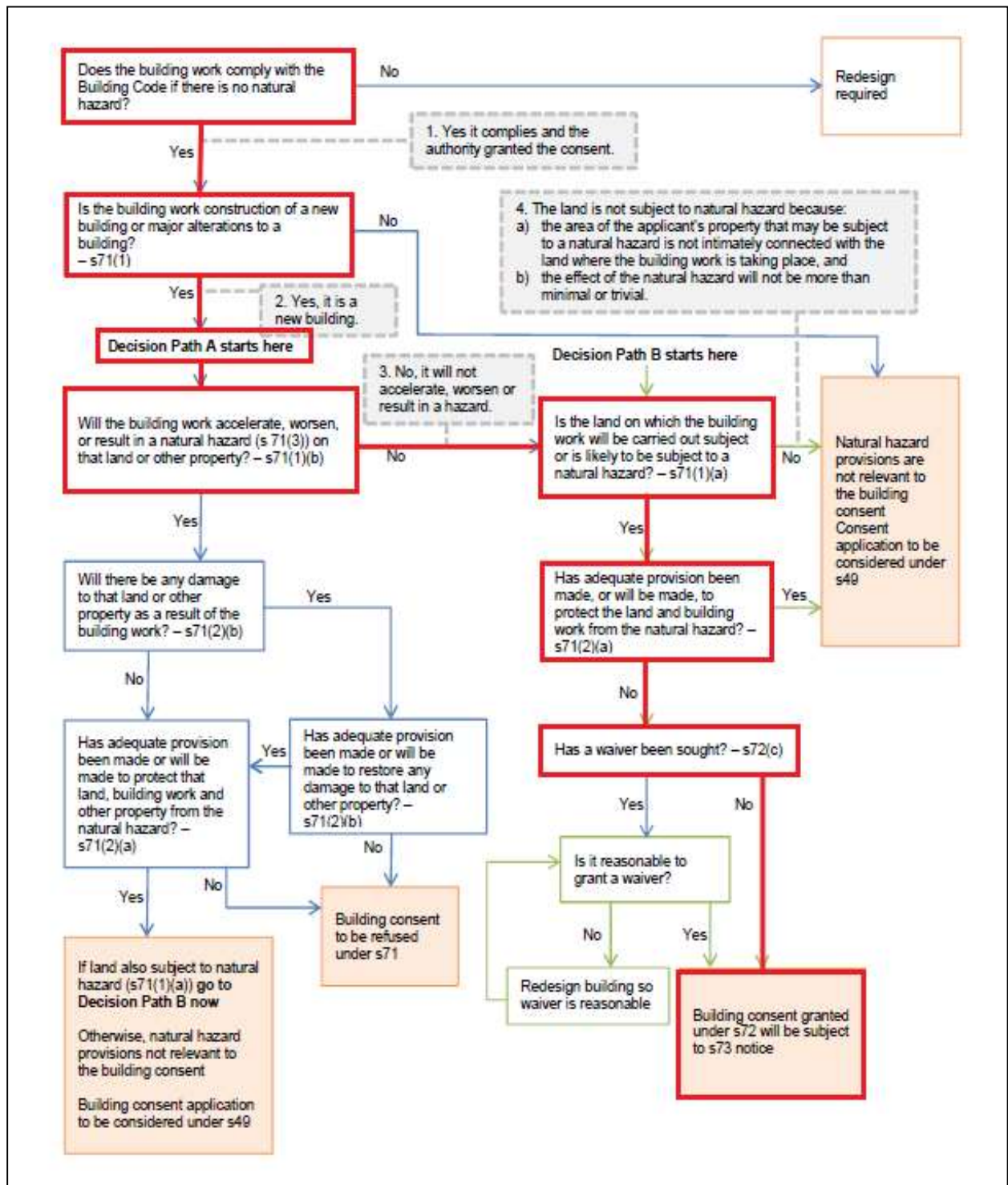
- (a) any design or construction work is carried out or supervised by a licensed building practitioner; and
- (b) the carport—
 - (i) is on the ground level; and
 - (ii) exceeds 20 square metres in floor area, but does not exceed 40 square metres.

43 Single-storey detached buildings exceeding 10, but not exceeding 30, square metres in floor area (where kitset or prefabricated)

- (1) Building work in connection with any detached building if—
- (a) the building is a kitset or prefabricated building, and the product manufacturer or supplier has complied with subclause (3); and
 - (b) the building work is carried out in accordance with the design referred to in subclause (3); and
 - (c) the building—
 - (i) is not more than 1 storey (being a floor level of up to 1 metre above the supporting ground and a height of up to 3.5 metres above the floor level); and
 - (ii) exceeds 10 square metres in floor area, but does not exceed 30 square metres; and
 - (iii) does not contain sanitary facilities or facilities for the storage of potable water; and

- (iv) does not include sleeping accommodation, unless the building is used in connection with a dwelling and does not contain any cooking facilities; and
 - (v) if it includes sleeping accommodation, has smoke alarms installed.
- (2) However, subclause (1) does not include building work in connection with a building that is closer than the measure of its own height to any residential building or to any legal boundary.
- (3) The product manufacturer or supplier (as defined in [section 14G](#)) must have had the design of the building carried out or reviewed by a chartered professional engineer.

Appendix B: Natural Hazards Decision Tree⁵¹



(with annotations marked in 'red', by the authority, specific to this determination)⁵²

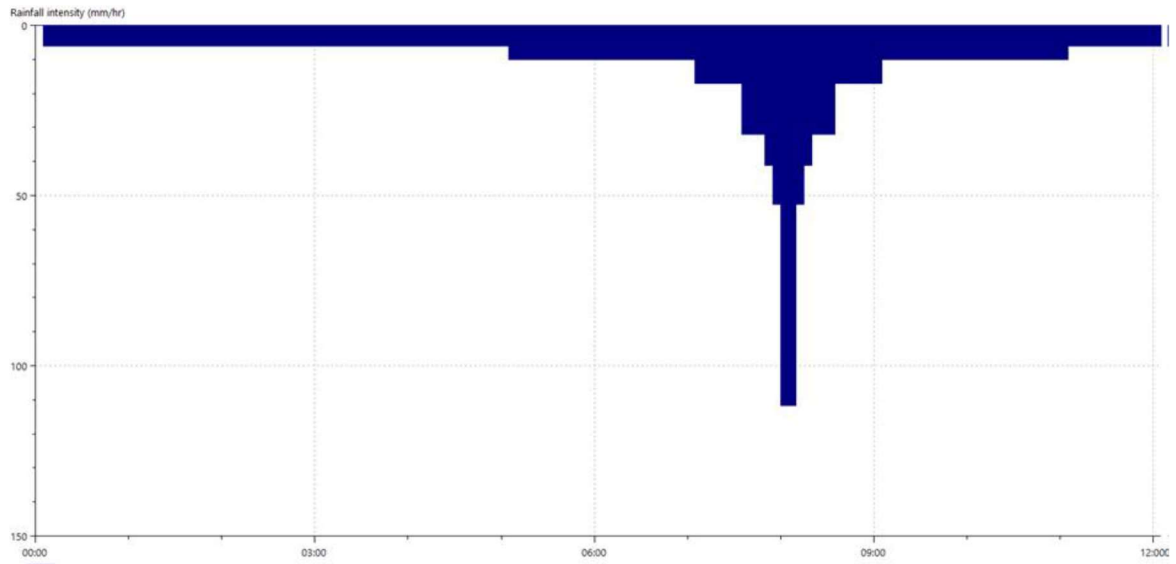
⁵¹ Decision tree provided by the authority to the owner in an email on 25 June 2020 along with a note about how the authority decides which provisions of the Act to grant a building consent. The note stated: “Regarding the decision tree [the authority] uses to make [its] decisions...refer to Appendix B of Determination 2018/057 for the Natural Hazards Decision Tree set out by the Ministry. [The authority has] attached an annotated screen-capture showing the decision path that was taken regarding the consent at 45 Darlington Road”. The decision path taken by the authority is indicated by the red coloured lines and boxes.

⁵² This version of the decision tree taken from Determination 2018/057 contains additional notes (see the text numbered 1 to 4 inside rectangles with grey coloured dashed borders) which are **not** relevant to this case.

Appendix C: Flood modelling data for the property

The flood modelling data below is sourced from the regional water services company (see paragraph 2.26) and was provided by the authority on 27 October 2020.

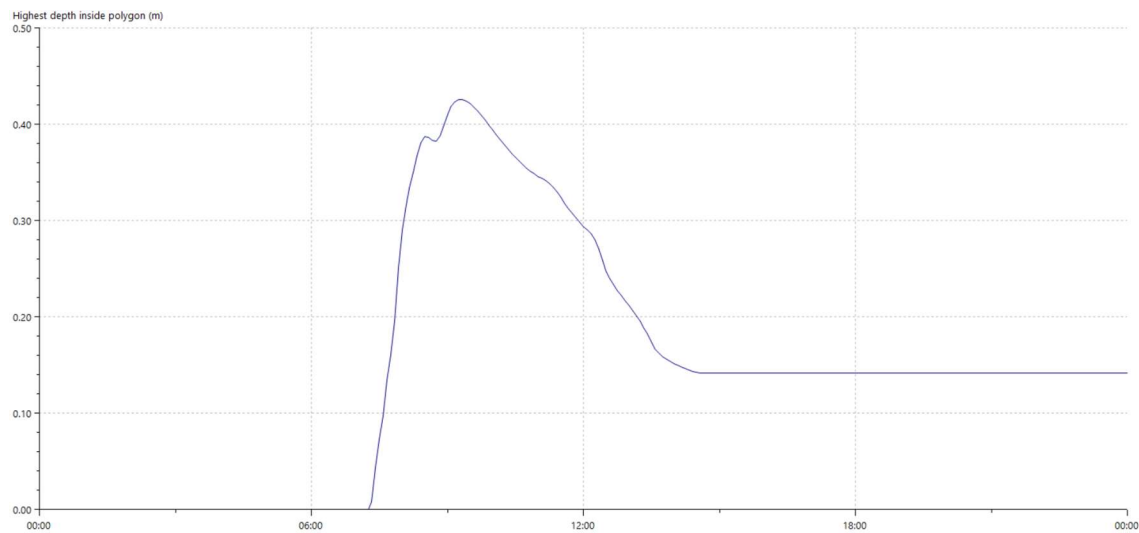
Rainfall intensity (mm/hr)



Time

Deep Area of Site:

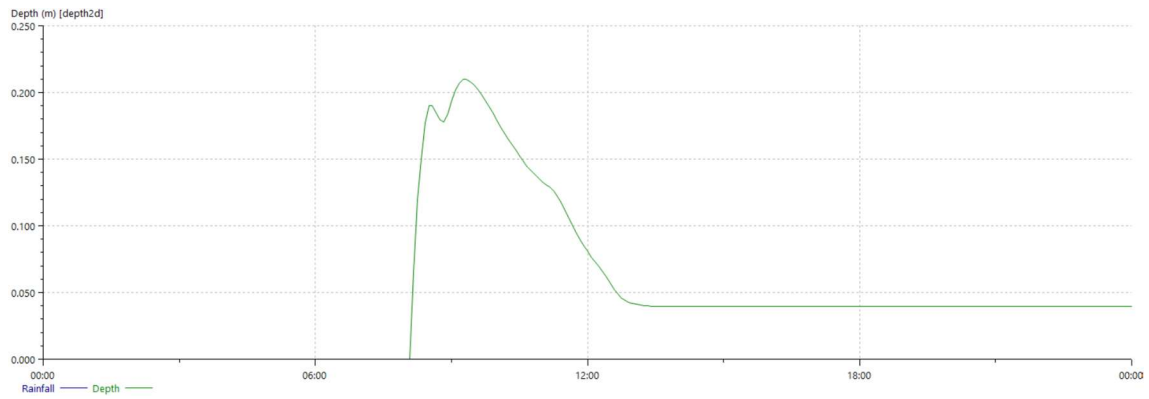
Highest depth inside polygon (m)



Time

Shallow Area of Site:

Depth (m)



Time