



Determination 2019/034

Regarding the decision to grant a building consent for the construction of a dwelling without requiring it to be subject to a notification under section 73 of the Building Act at 250 Fagan Road, Palmerston North

Summary

This determination considers whether a building consent issued to a previous owner for the construction of a new dwelling should have been issued subject to a section 73 condition requiring notification of a natural hazard to be placed on the land title. The determination was sought by the current owner who believes the land is subject to inundation. The determination considers whether the land is subject to a natural hazard and the information the authority relied upon in issuing the building consent.

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, Katie Gordon, Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.
- 1.2 The parties to the determination are:
 - the owner of the property at 250 Fagan Road, Mr S Carey (“the applicant”)
 - Manawatu District Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 This determination arises because the applicant is of the view that the authority incorrectly granted a building consent for the construction of a dwelling to the previous owner of the property in 2008, without the consent including a condition that it was subject to notification under section 73 of the Act. The applicant has experienced flooding at the property and believes the property is subject to inundation under sections 71 to 74 of the Act².
- 1.4 The authority is of the view that it correctly exercised its power of decision in granting a building consent for the construction of the dwelling. The authority is of the view that the property was not subject to a natural hazard under section 71(1)(a), and even if it was, adequate provision had been made to protect the property and dwelling under section 71(2)(a).

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

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

- 1.5 I consider the matter to be determined³ is whether the authority correctly exercised its power of decision in granting the building consent for the construction of the dwelling without a condition on the consent requiring notification to the Registrar-General of Land under section 73 of the Act.
- 1.6 In deciding this matter I am of the view that I must consider the application of sections 71 to 74 of the Act, specifically whether the property was subject to inundation at the time of building consent was granted, and if it was, whether there was sufficient information at the time that the authority should have reasonably concluded this.
- 1.7 I have not considered the issues raised by the applicant about the information contained in the Land Information Memorandum (LIM) for the property issued under the Local Government Official Information and Meetings Act 1987. Matters concerning a LIM are outside the matters that can be determined under section 177 of the Act.
- 1.8 In making my decision, I have considered the submissions of the parties, the reports of the independent expert commissioned by the Ministry to advise on this dispute ("the expert") and the other evidence in this matter.
- 1.9 The relevant sections of the Act referred to in this determination are set out in Appendix A. Appendix B includes Map 14 from the Manawatu District Plan 2002 referred to in Figure 1.

2. The property and the building

- 2.1 The property is located in a predominantly rural area and is approximately 4.0 hectares in area. The topography of the property is generally flat with a slight north-west to south-east fall. The house is located approximately 50m from a flood channel as described in the District Plan 2002.
- 2.2 The house is located at the road end of the property, away from the flood channel. Figure 1 shows the location of the property and flood channel taken from the authority's District Plan dated 2002. The closest stream (the Piakatutu Stream) is located outside the property boundary approximately 180m from the house to the north-west. Historic aerial imagery also appears to show a number of dry stream beds on the property from 2004 to the present, but the degree to which these features are evident in the aerial photographs vary over time.
- 2.3 The consented plans show a 128 square metre dwelling constructed on a reinforced concrete floor slab, comprising weatherboard cladding, aluminium joinery, and profiled metal roofing.
- 2.4 The consented plans show the finished floor level 225mm above the adjacent ground level.
- 2.5 The site report for the consented onsite foul water treatment system, dated 1 April 2008, records the site as:

The section is a flat clear area ... that is currently in pasture.
Several mature trees are around the boundary areas.
There are no watercourses on the site.

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

- 2.6 The project information memorandum⁴ (PIM) issued with the building consent, dated 6 May 2008 made no reference to any natural hazard on the property; the form stated it was issued under the Act “and includes all information known to this authority”.
- 2.7 There are ancillary buildings located on the property including sheds, stables, yards and a dressage area. A separate garage was constructed in 2015.

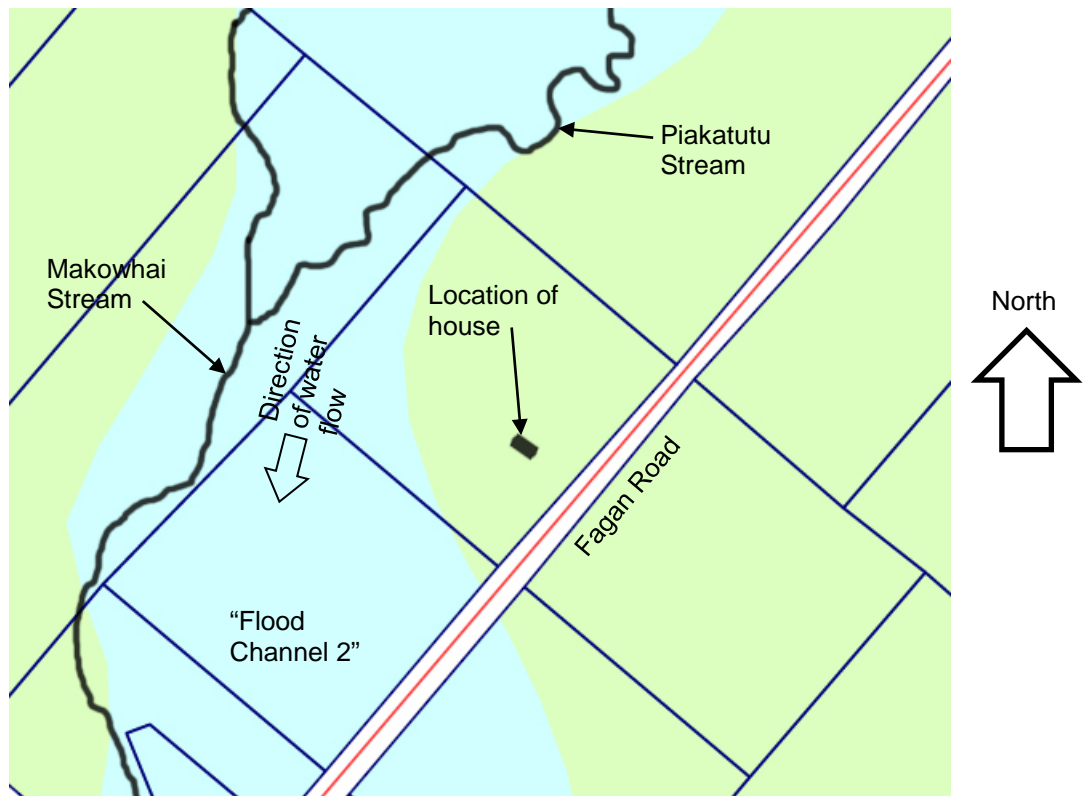


Figure 1 – Excerpt from Map 14 from District Plan 2002 showing the property with the Makowhai and Piakatutu streams superimposed (refer Appendix B for the full map)

3. The background

- 3.1 On 6 May 2008, the authority granted building consent (BC 119535) for a three-bedroom dwelling to be constructed at the property as described in paragraphs 2.1 to 2.4.
- 3.2 The dwelling was constructed during 2008. A final inspection was carried out on 17 September 2008 and a code compliance certificate was issued on 18 September 2008.
- 3.3 The final inspection record dated 16 September 2008 records the floor level of the building in relation to ground level as “Generally 300mm above existing levels”. Three photographs of the completed building taken at this time also verify the height of the building to adjacent ground levels.
- 3.4 The applicant purchased the property in May 2014.

⁴ A PIM is a statutory document that provides information about land and about the requirements of other Acts that might be relevant to proposed building work. Section 35 of the Act describes the information a PIM must contain.

- 3.5 The applicant experienced flooding on the property on 15 May 2015 and 20 June 2015. The applicant advised flooding had also previously occurred in 2010.
- 3.6 On 10 July 2014, the following land data was entered into the authority's system for the property:
- [The property] has been known to be subject to surface flooding during heavy rain. The property owner has reported flooding of the property since 2009, including flooding inside the dwelling. The flooding seems to be the result of stormwater flows in excess of the capacity of the Makowhai Stream, which runs behind the property. Flood waters from the Makowhai Stream pass through [the property]. It is suspected that the developments at the Ohakea⁵ airbase have contributed to the surges of stormwater that travel down the Makowhai Stream during heaving rain. The Makowhai Stream also receives much of the stormwater from the nearby Sanson⁶ township.
- 3.7 The applicant subsequently wrote to the authority on 21 June 2015 about the flooding at the property on 15 May 2015 and 20 June 2015. The applicant noted:
- ... two days within the past two months we have been inundated with water and have had to put measures in place in order to stop the water from overcoming the house.
- ... The main causes for the flooding are: The water coming down the road from the dam⁷, which floods the road side culverts, and then breaches downwards into our property. ... Water from the Ohakea runway is flowing directly into [Makowhai] stream that runs (somewhat) parallel to Fagan Road and continues across Speedy Road. As this stream is not straight and is small in size, it cannot handle the water and then bursts at corners. This turns [the neighbouring paddocks] into a lake. This then bursts across our property causing it to become a river in multiple locations. Furthermore, the stream itself rises further and flows onto the property from the West.
- 3.8 The authority wrote to the applicant on 26 June 2015, in response to a letter from the applicant. The authority stated:
- Planning checks of the building consent application identify that the dwelling was not going to be constructed within the flood channel ... Given that the dwelling was located outside of the flood channel zone it was determined that the natural hazard affecting the land did not pose a risk to the building work. Therefore, section 72 of [the Act] was not triggered as section 71(2) was complied with and the building consent could be issued without a condition imposed under section 73.
- 3.9 With respect to Makowhai Stream and Piakatutu Stream, the authority noted:
- ... the Piakatutu Stream was cleared from the Makowhai Stream to SH1⁸ and the Makowhai Stream was cleared from the Rangitikei River to Speedy Road⁹ in the last 12 months (last winter). Given this, [the authority is] satisfied that the required level of maintenance has been undertaken in these streams and as such did not contribute to the risk of flooding at your property.
- 3.10 The regional council¹⁰ wrote to the applicant on 26 June 2015, in response to a letter from the applicant. The regional council noted that based on its initial assessment of the closest rain gauge at Ohakea, the 20 June 2015 rainfall was equivalent to a 1-in-50 year storm event. The regional council noted that some flood protection works

⁵ RNZAF Base Ohakea is located approximately 1km to the north

⁶ The Sanson township is located approximately 3km to the north-east

⁷ The location and nature of the dam has not been disclosed.

⁸ Upstream to the north-east

⁹ Downstream to the south-west

¹⁰ Horizons Regional Council

and drainage upgrades had been carried out at the property since the 2010 flood event to address some of the flooding issues.

- 3.11 With respect to a bund on the property, which has not been described elsewhere, the regional council stated:

Based on recent flood events at this property [the regional council] is of the opinion that the existing bund may need to be raised higher or extended to provide 0.5% AEP¹¹ flood protection, with adequate freeboard, to the existing house on this property.

- 3.12 With respect to the flow of the Makowhai Stream and stormwater runoff, the regional council noted there is a resource consent for the discharge of surface water from Ohakea to the Makowhai Stream and stated:

This consent was granted with consideration of advice obtained from a suitably qualified consulting engineer, who assessed the potential effects of the increased runoff from development at Ohakea to be less than minor. ...

The construction of stopbanks on the stream or a bund around your entire property would not be supported by [the regional council]. As this property is within the natural flow paths of these streams, the construction of new stop banks or bunds would divert flood flows elsewhere and potentially cause or exacerbate flooding on other properties. However, [the regional council] is of the opinion that there are things that can be done to reduce the flooding experienced at this property and to ensure that the existing house is not inundated during a 1 in 200 year flood event.

- 3.13 Following this correspondence, the applicant and the authority, and its legal representatives, continued to correspond about the flooding issues to the property during 2016 and 2017.
- 3.14 The Ministry received a complaint from the applicant under section 200 of the Act on 2 October 2017. On 11 October 2017, the Ministry advised the applicant that the authority's decision to grant a building consent without requiring notification under section 73 of the Act is a determinable matter under section 177 of the Act.
- 3.15 The Ministry subsequently received an application for determination on 18 October 2017.

4. The submissions

4.1 The initial submissions

- 4.1.1 With respect to the building consent, the applicant noted:

[The authority] issued a building consent for the property ..., without placing a [section 73] Natural Hazards Notification to the title, nor undertook any work in order to eliminate or mitigate the risk posed by inundation. Part of the property lies within Flood Zone 2 channel on [the authority's] records. The building platform lies within 50metres of the flood zone 2 Channel. As a direct result of this failing the property has been flooded and is an increased risk of flooding in the future – much greater than the required 1-100 and 1-50 year flood risk levels.

Had the [authority] given due consideration at the time, and the appropriate notification had been put on the title, we would have never purchased the property.

¹¹ Annual Exceedance Probability. The term '0.5% AEP' means an event having a 0.5% percent probability of occurring annually. This can also be referred to as a '1-in-200 year' event.

4.1.2 The application provided:

- photographs of the flooding experienced at the property in 2015
- copies of correspondence between the applicant and the authority
- copies of correspondence between the applicant and the authority's legal representatives
- copies of previous determinations about inundation and natural hazards.

4.1.3 The authority acknowledged the application on 17 November 2017. The submission included an aerial photograph of the site (dating from around 2015) and a low-resolution image of the site as it appears in the Manawatu District Plan (undated but similar to that shown in Figure 1).

4.1.4 In its submission, the authority stated:

It was determined by [authority staff] that the dwelling and land associated with the dwelling would not be affected by inundation shown as flood channel 2 to the [south-west] corner of the land/property. Therefore no [section 73] certificate under the [Act] was applied.

4.1.5 In its submission, the authority also stated that:

The building consent was issued meeting the requirements of [section] 71(2) where the [authority] was satisfied that adequate provision had been made to protect the land, building work or other property from the natural hazard. This decision was based on the fact that flooding on the land associated to an overland flow path (flood channel 2) was not considered to affect the land intimately connected to the proposed building as the natural hazard was deemed to be sufficiently remote from the building work. ...

[Authority] records from the [authority's] project engineer indicate that the [authority] became aware of the flooding issues at 250 Fagan Road in late October 2009 relating specifically to road drainage infrastructure.

This information was not known to [the authority] at the time of processing the building consent. ...

4.1.6 The authority also noted that its current in-house natural hazards guidance document refers to an assessment of a natural hazard within 10m of a proposed building¹². In this case, the building is 50m from the flood channel, and therefore its current guidance document is consistent with the approach taken with respect to this building consent in 2008.

4.1.7 The applicant responded to the authority's submission on 21 November 2017. The applicant noted that there was no mention of natural hazards or more specifically section 71(2) of the Act in the processing notes, and that there was not sufficient information for the authority to be satisfied that adequate provision had been made to protect the land and building work. The applicant also noted that:

[The authority's] satellite diagram shows the dry creek bed ... within 5m of the building platform. A dry creek bed is indicative of a natural water flow path in the event that water enters it – which happens in any rain event.

The applicant provided a marked-up copy of the aerial photograph referred to in paragraph 4.1.3 to show what he believed to be the dry creek bed. (In response I do not consider it is possible to definitively identify the creek bed from the aerial

¹² I would caution the authority against reliance on a pre-determined distance to determine the existence of a natural hazard. Whether inundation is a hazard or not will also depend on the nature of the inundation itself (e.g. duration, depth, effect, and potential for causing damage).

photograph provided as the applicant has done, nor do I consider the creek bed was a feature that was obvious at ground level. I have also referred to the variation in the extent to which these features are evident in historic aerial photographs in paragraph 2.2.)

- 4.1.8 On 22 November 2017, the authority provided the property file. This included the building consent application documentation, processing check sheets and inspection records and code compliance certificate documentation.
- 4.1.9 On 24 November 2017, the applicant made a submission noting that the files provided by the authority including the processing checklist did not contain evidence of consideration of natural hazards in the processing of the building consent application. The applicant also noted that there was a concern about compliance with Clause E1 Surface water, given a dry creek within 5m of the house, and the need for the floor level of the house to be 150mm¹³ above the road crown.
- 4.1.10 On 28 November 2017, the authority made a submission about its process for considering natural hazards in response to the applicant's submission. The authority noted that it had identified the flood channel zone as part of the processing, but as the proposed building was sited approximately 50m away from the flood channel, the decision was made that the building consent could be issued subject to section 71(2). The authority noted that this process wasn't sufficiently documented, although the outcome is the same as it would be today.

4.2 The draft determination and submissions received in response

- 4.2.1 A draft determination was issued to the parties for comment on 18 April 2019. The authority accepted the draft determination without comment on 6 May 2019.
- 4.2.2 The applicant did not accept the draft determination in a response dated 15 May 2019, and submitted (in summary) that:
- In issuing a building consent the authority must act in a way that provides protection for owners and future owners to meet the purposes and principles of the Act. The determination does not take this requirement into account.
 - The expert's opinion shows the property is subject to inundation which requires sections 71 to 74 to be applied. "[S]tandards of proof (in common law)" require the authority to provide evidence that clearly indicates it considered the natural hazards but there is no evidence of this.
 - Determination 2019/006¹⁴ outlines the need for an authority to have sufficient information; the necessary information was available at the time but was not considered.
 - The determination cannot consider the dwelling without the site in which the dwelling is located; section 71(1)(a) states 'the land on which the building work is to be carried out on', there is no mention of the distance from a hazard. "It is requested that section 71-74 is considered against the property as that is how the law is written. To not consider this in the current determination is against the purpose of the act."

¹³ This is assumed to be a reference to the Acceptable Solution to Clause E1, being E1/AS1. The property in question is outside the scope of E1/AS1 that was in force at the time the consent was issued – being larger than 0.25 hectares in area and adjacent a watercourse.

¹⁴ Refer paragraph 6.1.4 of Determination 2019/006 Regarding the removal of an insanitary building notice and lack of notification of a natural hazard for a relocated building (29 March 2019)

- The “notification on the PIM cannot be relied upon as the building work was completed in the summer. The photos¹⁵ utilised showed long grass which would not have shown the water courses easily”.

5. The expert’s report

5.1 The initial report

- 5.1.1 As mentioned in paragraph 1.8, I engaged an independent expert to assist me. The expert is an environmental scientist. The expert's report was received on 23 March 2018 and sent to the parties on 26 March 2018.
- 5.1.2 The expert undertook an investigation of the information available at the time the building consent was granted and the potential for flooding at the property, and whether there has been a significant change in flood risk to the property since the consent was granted.
- 5.1.3 The expert noted that the property is situated within the Makowhai/Piakatutu catchment which flows into the Rangitikei River about 12km from the sea. Upstream in the catchment there is the small town of Sanson and the Ohakea, and other than these developed areas, the catchment largely consists of rolling farmland. The expert noted the catchment area at the location of the property is 38km².
- 5.1.4 The expert assessed whether the flood risk to the property might have been altered as a result of changes to the river channel hydraulics within the catchment as a result of channel works, road culvert upgrades etc. From an initial desktop review, the expert concluded that there were no obvious changes attributed to physical works occurring within the catchment over this period.
- 5.1.5 The expert considered three sets of data:
- frequency analysis of rainfall data prior to the consent being granted in 2008, and through to present day
 - Regional Flood Frequency method to estimate peak flow for a 1% AEP event to quantify the flood hazard
 - results from a draft 2D hydraulic model of the catchment.
- 5.1.6 In order to understand the potential flood risk at the property, both prior to the building consent being granted and current day, the expert considered flow and rainfall data. Flow and rain gauge data was not available within the catchment of the property, so data was assessed from neighbouring catchments.
- 5.1.7 With respect to flow data, the available data is limited and does not relate well to the catchment or the property and so was not considered appropriate for use.
- 5.1.8 With respect to the rainfall data, the expert observed that the greatest flood risk is from short duration, high intensity rainfall bursts. The expert noted that the record length at the two nearest gauges is ten years or less, with no record prior to the time of building consent. The expert used rainfall gauges from two other catchments as they are the closest gauges with appropriate recording length and interval, however, noted these gauges are in a different catchment and subject to different rainfall. The expert used these gauges as a proxy to consider whether the frequency of intense rainfall events has changed from prior to the consent being granted to present day.

¹⁵ It is assumed this is referring to the site photographs noted in paragraph 3.3

- 5.1.9 With respect to the Regional Flood Frequency method, the expert used this method to estimate peak flow for the 1% AEP event at the property, resulting in a peak flow estimate of 29 m³/s for the 1% AEP event. The expert noted that this method is a high-level estimate of the flood peak however it is based on regional flow records and does not take account of site-specific details or the nearby flood channel.
- 5.1.10 With respect to the draft 2D hydraulic model, the expert noted the model showed flooding through the property in a 1% AEP flood. The accompanying validation showed that 87% of the time the modelled peak water levels were within 0.5m of the debris lines left by the 2015 event, which is considered a reasonable model calibration. The expert noted that this model used design storms which that could potentially overestimate results, however, does provide a strong indication of the flood risk.
- 5.1.11 The expert concluded the following about the flood risk to the property:
- a visual assessment of aerial imagery available at the time of the building consent would suggest the property is at risk of flooding, based on the location from the stream channel and historic flow paths evidence across the plains
 - rainfall data shows no notable change in rainfall intensity between 1992 and 2007; and 1992 and 2017
 - the draft 2D hydraulic model of the catchment clearly shows flooding through the property in a 1% AEP flood. This model was not available at the time of consent.
- 5.1.12 The expert also noted that it is likely that the property will experience flooding again in the future and that the extent of flooding may be affected by the performance of nearby road culverts in the catchment.

5.2 The parties' response to the expert's report

- 5.2.1 On 13 April 2018, the authority responded to the expert's report. The authority noted that the report confirms there was limited data available to accurately assess the flood risk to the property in 2008. The authority stated it:
- relied on the location of the flood channel zone included within the [Operative District Plan] and the aerial imagery (useful in identifying potential sources of flooding in a rural context), and distance from the flood channel.
- 5.2.2 The authority also stated that:
- Even if the land intimately connected to the building work was subject to inundation, for the purposes of [section 72(2)] of the Act, [the authority was] of the view that adequate provision had been made to protect the building work and the land due to the level of known risk and spatial distance.
- 5.2.3 On 14 April 2018, the applicant reiterated the expert's conclusion that a visual assessment of aerial imagery would suggest the property is at risk of flooding. The applicant also submitted that this information was available in 2008 but that the authority did not make use of the information or request additional reports to come to their conclusion.
- 5.2.4 On 25 May 2018 the applicant submitted that the Regional Council held aerial photographs of flooding to the catchment area in 2004¹⁶. A Regional Council email

¹⁶ The size of this flood event was not stated.

including one photograph was provided to the Ministry by the applicant on 6 June 2018. The photograph showed an area of flooding associated with the Makowhai Stream located approximately 5km downstream from the applicant's property. Email advice from the Regional Council accompanying the photograph said it did "not show any flooding upstream of Rowe Rd" (Rowe Road being approximately 3.3km away downstream from the applicant's property).

5.3 The expert's addendum report

5.3.1 I engaged the expert to prepare an addendum report presenting the flood model results for the property, as the Regional Council model for the Makowhai/Piakatutu catchment had been finalised. The expert's addendum report was received on 16 January 2019. Copies of the report were sent to the parties on 29 January 2019.

5.3.2 With respect to the model results, the expert stated that in both 2% and 1% AEP floods:

the majority of the parcel boundary is shown to flood. In the 2% AEP event, areas directly adjacent to the house are modelled as flooding to depths of between 0.2m to 0.25m, while the surrounding area is flooded up to a depth of 0.4m. In the 1% AEP event, areas directly adjacent to the house are modelled as flooding to depths between 0.2 to 0.3m, while the wider adjacent area is flooded up to a depth of 0.45m. The shallower depths adjacent to the house are most likely attributed to the house and immediate surrounds being slightly elevated. Typically the 1% AEP results are showing the modelled flood depth to be 40-70mm greater than the 2% AEP event.

5.3.3 The expert concluded that the model results clearly highlights the flood hazard through the property. The expert noted that at the time of consent, there was limited data with which to accurately assess the flood risk to the property (ie no hydraulic model of the catchment). However, the expert stated that:

... given that the property is within the floodplain, other analyses such as estimation of peak flows using the Regional Flood Frequency method, and review of aerial imagery and topographical data could have been used as part of an overall assessment to assist in understanding the likely flood flows, and flood risk.

5.4 The parties' response to the addendum report

5.4.1 On 29 January 2019, the applicant noted that the expert's conclusions evidences that the authority did not correctly issue the building consent and failed to undertake the necessary checks and the available data sets and resources were not used. The authority did not respond to the report.

6. Discussion

6.1 General

6.1.1 The primary purpose of the natural hazard provisions of the Act is to ensure consideration is given to how building work affects natural hazards and impacts on the land or other property. The provisions do not prevent building work even where land is subject to natural hazards, unless the building work will accelerate, worsen or result in a natural hazard on the land which the building work is to be carried out or to any other property.

6.1.2 Where building work is undertaken on land that is subject to a natural hazard and the building work will not accelerate or worsen the natural hazard, the purposes of the provisions are to:

- notify of the existence of natural hazards by placing a notice on the title
 - ensure the building work is protected from the natural hazard
 - confirm that the building consent authority has considered the natural hazard when granting the building consent
 - give an authority certain protections from liability, under section 392(3) of the Act, relating to its decision to grant a building consent notwithstanding the natural hazard.
- 6.1.3 The applicant is of the view that the 2008 building consent was incorrectly issued. I note that that the decision to issue the building consent, and associated code compliance certificate, was made in 2008.
- 6.1.4 Determination 2019/006 referred to by the applicant considered the granting of a building consent without notification of a natural hazard under section 36(2) of the former Act¹⁷. That determination considered whether the building consent, which had not been issued with a code compliance certificate, should be subject to an amendment to include the condition that the consent is subject to notification to the Registrar-General of Land.
- 6.1.5 Determination 2019/006 found that there was sufficient information available to establish that the land on which the building work was to be carried out was at risk of inundation at the time the consents were granted under the former Act, and therefore the test under section 36(1)(a) of the former Act was met. However, in respect of whether the authority's decision to grant the building consents should be modified, the determination concluded those decisions should not be reversed for a number of reasons, including that:
- the building consents had already been relied on and the work under those consents completed
 - if the test under section 36 of the former Act was to be now applied, the owner would have been deprived of the opportunity to choose whether to have a notation on their title, and
 - the building consent authority would have been exempt from liability.
- 6.1.6 Given the current determination is about whether the authority correctly issued the building consent, I am of the view I must consider how the provisions of sections 71 to 74 apply in this case. This requires consideration of whether the property was subject to inundation at the time the building work was consented, and if it was, whether there was sufficient information that the authority should have reasonably concluded this. If I find that the building consent was incorrectly issued and should have been subject to notification under section 73 of the Act, I must then also consider whether the decisions of the authority to grant the building consent and issue the code compliance certificate should be reversed or modified.
- 6.1.7 I first must consider whether section 71(1) applies. Section 71 states that a building consent authority must refuse to grant a building consent for the construction of a building or major alterations 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

¹⁷ The Building Act 1991

- (b) the building work is likely to accelerate, worsen, or result in a natural hazard on that land or any other property.

6.1.8 I note that sections 71 to 74 of the Act require consideration of the building work, site, and other property. This dispute is centred around the dwelling itself and therefore I have considered how these provisions apply with respect to the construction of the dwelling.

6.1.9 With respect to the dwelling, I note the plans show that the finished floor level of the dwelling was to be 225mm above the finished ground level. The inspection records and photographs taken at the final inspection in September 2008 (refer to paragraph 3.3) show the finished floor level about 300mm above the adjacent ground level. The April 2008 site report for the consented onsite foul water treatment system records the site as “a flat clear area” with “no watercourses on the site”. The PIM issued on 6 May 2008 does not note the presence of any natural hazard on the property.

6.2 Was the land subject to inundation at the time the building consent was granted

6.2.1 The approach in previous determinations¹⁸ has been that section 71 requires an assessment of whether the effect of a natural hazard will be more than minimal or trivial, and with respect to the likelihood of a given natural hazard occurring.

6.2.2 Section 71(3)(a) to (e) defines a natural hazard by the event occurring (in this case inundation) but does not give an indication of the extent of that event. Previous determinations¹⁹ have taken the approach that a 1% AEP event is appropriate in relation to inundation and the “likelihood” test in section 71(1) and I maintain that view.

6.2.3 In the current case, the expert found that the 2D hydraulic model of the catchment clearly highlights the flood hazard through the property, as the majority of the parcel boundary is shown to flood. In the 2% AEP event, the model shows flooding to depths of between 0.2m to 0.25m directly adjacent to the house, and flooding to 0.4m in the surrounding area. In the 1% AEP event, the model shows flooding to depths between 0.2 to 0.3m directly adjacent to the house, and flooding to 0.45m in the surrounding area. I consider the inundation is more than minimal or trivial as considered in Determination 2013/047²⁰.

6.2.4 The expert also found that rainfall data shows no significant change in rainfall intensity between 1992, and 2007; and between 1992 and 2017.

6.2.5 Based on this evidence, it is reasonable to conclude that the property is subject to inundation, and was subject to inundation at the time the building consent was granted.

¹⁸ For example, Determination 2013/081 Regarding the issue of a building consent subject to a section 73 notice for a house on land subject to inundation (23 December 2013), and Determination 2017/048 Regarding the decision to grant a building consent subject to notification under section 73 for building work on land subject to a natural hazard (30 June 2017)

¹⁹ See for example Determination 2008/082 Building consent for a storage shed on land subject to inundation (5 September 2008)

²⁰ Determination 2013/047 Regarding the refusal to grant building consent without a section 73 notice for a garage on land subject to inundation (20 August 2013)

6.3 Should the building consent have been granted without notification of a natural hazard?

- 6.3.1 I have considered the authority's exercise of its powers of decision when it granted a building consent for the construction of the dwelling without notification of a natural hazard under section 73 of the Act.
- 6.3.2 There are three decision making pathways that could have led to an outcome whereby the authority granted the building consent without notification of the natural hazard:
- the authority turned its mind to whether the land was subject to a natural hazard, and concluded it was not; or
 - the authority turned its mind to whether the land was subject to a natural hazard and concluded it was, but reached a view that the land and building work was adequately protected (which would mean the authority erred in not notifying the consent under section 73)
 - the authority did not turn its mind to whether the site was subject to a natural hazard, either because it had no awareness of the likelihood of inundation to the property, or for some other reason.
- 6.3.3 The authority now contends that there was limited information available at the time the building consent was granted, and based on the information available at the time, it was of the view that the dwelling would not be affected by inundation, as the flood channel zone included within the Operative District Plan is shown only to the west corner of the property, being some 50m from the dwelling.
- 6.3.4 There also appears to be some doubt about accuracy of the location of the flood channel shown in the district plan (refer Figure 1) as the channel shown does not fully coincide with the streams that give rise to it; the flood channel may be further to the west of the house (i.e. further away from it) than is indicated in the plan.
- 6.3.5 The 2D hydraulic model was not available in 2008 when the building consent was granted. The expert noted that at the time of consent, there was limited data with which to accurately assess the flood risk to the property (i.e., there was no hydraulic model of the catchment).
- 6.3.6 With respect to historical data available, I note the expert's comments that the nearest rainfall gauges have ten years or less of records, and rainfall data used by the expert to assess whether the frequency of intense rainfall events has changed since the building consent was granted was from gauges in a different catchment, which experience different rainfall patterns.
- 6.3.7 I also accept that current and historic aerial imagery is now readily available that appears to show dry stream beds on the property but that was not the case when the consent was issued in May 2008. Software such as Google Earth now provides historic aerial imagery, but Google Earth did not provide this feature until after May 2009.
- 6.3.8 The expert stated other methods of analysis could have been used, such as estimating peak flows along with a review of aerial imagery and topographical data to understand likely flood flows and flood risk, rather than rely solely on the flood channel zone shown in the Operative District Plan. However, I do not consider the site and the immediate locale contained the types of features and typography that would have alerted the authority of the need to undertake this detailed assessment,

and I consider it was reasonable for the authority to rely on the information contained in the PIM.

- 6.3.9 The relevant map from the Operative District Plan that shows the site (refer Appendix B) appears to be the only documentation the authority had about flooding in the district. I note the authority's comments in paragraph 5.2.1 regarding what was shown on the Operative District Plan's maps in relation to this site are contemporaneous to this determination, and it is open to question whether the same map was referred to for this purpose when the consent was issued in 2008. The map covers a large area (approximately 200km²) and I do not consider a map of this scale could have been reasonably used by itself to determine the presence of an inundation hazard for an individual property, especially given the observation about the plan's accuracy noted in paragraph 6.3.4. The Operative District Plan itself makes broad reference to flood channels arising from 1-in-100-year events.
- 6.3.10 The flood channel shown on the Operative District Plan map is some distance from the house, but I do not consider this can be relied upon to establish the exact distance as noted above. The closest stream is located outside the property boundary approximately 180m from the house.
- 6.3.11 Previous determinations on section 71 to 74²¹ have considered the question of whether 'the land on which the building work is to be carried out' is the land that could potentially be subject to natural hazards. Determination 2018/057 stated:
- 6.2.13 The meaning of the word land in this context was considered by the High Court in the case of *Auckland City Council v Logan*²². (The case considered section 36 of the Building Act 1991, which is the equivalent of sections 71 to 73 of the current Act.) In relation to natural hazards, the court stated that the meaning of 'land' can be different depending on the circumstances of the case. It should, however, relate to the protection of "the site itself where... the building and the site are intimately connected". This comment has since been interpreted as meaning that for the purpose of section 71 the 'land' in question is that land which is 'intimately connected' with the building work.
- 6.2.15 That interpretation has been applied in several previous determinations, and I consider it still to be relevant and applicable in the current case. Whether the land on which the building work is to be carried out is subject to a natural hazard shall take into account:
- 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 the hazard
 - the extent of the property affected by the hazard in relation to both the building site and the property as a whole.
- 6.3.12 The reliance on aerial images to assess flooding in the district is also open to question as the only historical photograph of a flooding submitted to me is of an area some 3.5km from the applicant's property (refer paragraph 5.2.4).
- 6.3.13 It is possible that the authority did not expressly turn its mind to whether the site was subject to a natural hazard, but regardless of my view of this, the information available to the authority at the time the decision to issue the building consent was made did not suggest the land on which the building work itself was to be carried out was at risk of inundation. The PIM (refer paragraph 2.6) issued with the building

²¹ For example, Determination 2018/057 Regarding the decision to grant a building consent subject to notification under section 73 for building work on land subject to natural hazards (22 November 2018)

²² *Auckland City Council v Logan* HC Auckland AP77/99, 1 October 1999

consent also records what was known about the property at the time, and no natural hazard was noted.

- 6.3.14 I am therefore of the view that at the time the building consent was issued, there was insufficient information available to establish that the land on which the building work was to be carried out was at risk of inundation and that the test under section 71(1) was met. I therefore consider there was no trigger to include notification of the building consent to the Register-General of Land under section 73 of the Act as a condition of the building consent, and therefore the authority correctly issued the building consent.
- 6.3.15 As I have found the building consent was correctly issued, I do not need to consider whether the decision to grant the building consent or issue the associated code compliance certificate should be modified.

7. The decision

- 7.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the authority correctly exercised its power of decision in granting the building consent without a condition under section 73 of the Act, and I confirm that decision.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 23 July 2019.

Katie Gordon
Manager Determinations

Appendix A: The legislation

A.1 The relevant sections of the Building Act 2004 include:

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

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,—
 - ...
 - (c) in any other case, the Registrar-General of Land.

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 certificate 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 certificate 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 certificate of title.

Appendix B: Map 14 from the Manawatu District Plan 2002 (The area shown in Figure 1 is outlined)

