

1. Purpose of practice note

The purpose of this practice note is to ensure that there is a consistent, fair and reasoned approach regarding the consenting of building work on land which may be subject to natural hazards. The practice note seeks to do this in a manner that:

- Appropriately manages Council's legal and financial risks,
- Advises future property owners of any natural hazards affecting a building or structure on a property,
- Ensures development is not unreasonably restrained,
- Property owners erecting a structure or building do not incur unnecessary costs, and
- Any existing or future risk to the health and safety of residents within buildings subject to a natural hazard, is not unduly increased.

2. What are the legislative requirements?

The Council, as the building consent authority, is responsible for ensuring notices are registered against properties, which are subject to one or more natural hazards affecting "the land" upon which a building or structure is erected or proposed to be erected. This power arises from:

- Sections.71-73 of the Building Act 2004, or under previous legislation section 36 of the Building Act 1991; and
- Section 641A of the Local Government Act 1974.

Such notices can be removed by Council, if a specialist report or other factual information becomes available to and is accepted by Council, which demonstrates that the natural hazard is no longer present.

When a property owner exercises his or her rights to build on land subject to a natural hazard, Council is protected against civil liability under section 392 of the Building Act 2004, when it grants a building consent pursuant to section 72.

In order to ensure that Council's civil liability is protected, Council officers need to follow the requirements of the Building Act 2004 and make sure that the effects of a section 73 notice on the title of a property are clearly understood by the owner or owners of the land on which the building or structure is to be built.

3. What buildings are affected?

All new buildings and major alterations are affected by section 71-74 of the Building Act; the nature of the alterations (i.e. whether they are minor or not), is required to be assessed on a case-by-case basis.

The following checks should initially be applied by staff so as to help determine whether a proposal may be considered a major alteration:

- An increase of more than 20m² to the floor area of the building; or
- The alteration affects more than 30% of the existing floor area of the building; or
- An addition or alteration which increases the effect of the natural hazard on the existing building.

There can be additional indicators which might lead staff to consider that a proposal involves a major alteration beyond the three initial checks set out above.

These may include for instance assessing the value of the work proposed relative to the existing building or determining whether the work proposed will significantly extend the expected life of the existing building.

4. What is a natural hazard in terms of the Building Act and what properties or applications do these sections of the Act apply to?

Section 71(3) of the Building Act 2004 defines a natural hazard as:

- Erosion (including coastal erosion, bank erosion and sheet erosion),
- Falling debris (including soil, rock, snow and ice),
- Subsidence,
- Inundation (including flooding, overland flow, storm surge, tidal effects and ponding), and
- Slippage.

The definition of a natural hazard is not restrained by the requirements of the Building Code.

Hence, it is accepted practice to use the 1% probability of the occurrence (i.e. 1 in 100 years) of a natural hazard as an appropriate methodology to determine if the land is subject to a natural hazard. Similarly, the fact that the Building Code only requires the floor level of a residential building to be above a flood level, equivalent to a storm event with a 2% (i.e. 1 in 50 year) probability occurring any given year, does not mean that commercial or properties other than residential properties, are not subject to the provisions of sections 71 to 74 of the Building Act 2004.

Limits on application:

The performance requirement of Clause E1-Surface Water, E1.3.2 of the Building Code "shall only apply to Housing, Communal Residential and Communal Non-residential buildings".

Based on expert advice, Council has reasoned that waters of below 100mm with a 1% annual exceedance should not be considered inundation as defined in section 71 of the Building Act 2004. With this advice, it is strongly recommended that new building work finished floor level heights are taken from the expected flood levels as a minimum, and not from the existing ground levels.

5. What are the design requirements for building work that protects the land and buildings in terms of section 71(2)?

Building work that meets the requirements in section 71(2) can be processed as normal without the imposition of a section 73 notice. The requirements in this section apply where the Council is satisfied that adequate provision has been or will be made to:

"71(2)(a) Protect the land, building work or other property referred to in that subsection from the natural hazard or hazards";

Or,

"71(2)(b) Restore any damage to that land or other property as a result of the building work".

The protection works required by section 72(2), (that protects the proposed building site to make it free from a natural hazard which might otherwise existing on the land or restore any damage), should meet the following requirements:

- a) The protection works should have a design life span of 100 years and ensure the protection of the proposed building works for the expected >50 years life of that proposed building work, and
- b) In the event that such protective structures have maintenance requirements to ensure their structural integrity for the next 100 years, an encumbrance or a covenant should be registered against the property title setting out the structures maintenance requirements, and
- c) The structures protecting the land from a hazard shall have design and durability assessments provided by a suitably qualified person such as a registered professional engineer experienced in hazard mitigation work.

The type of expertise generally required would, for example, involve having undertaken flood protection and/or geotechnical and/or coastal protection assessment and/or design and/or works. Any building consents for a building work, such as a bund to protect against flooding or barrier pile wall to protect against land instability will not result in a section 73 against the land.

6. In what circumstances is a hazard not considered to be a natural hazard in terms of the Building Act?

General

Hazards, such as tsunami or earthquakes, are not regarded as natural hazards under the Building Act. These are however, considered natural hazards under the Resource Management Act 1991. Generally, the Building Act deals with design requirements for a building or structure only and associated shorter time frames as specified in the Act.

Tsunamis are too infrequent and are difficult to design against, while the Building Code has clear earthquake design requirements; hence tsunami and earthquakes are not regarded as natural hazards under the Building Act 2004.

Land instability

Care needs to be taken with development on sites with slopes greater than 1:4, or on land known to have instability issues or on land outside of an approved geotechnical building platform. In all of these instances, a geotechnical assessment is requirement for the building consent application. This geotechnical report will determine the best course of action in relation to sections 71 and 72 of the Building Act.

7. When does building work comply with section 71(2) event though a natural hazard affects the site?

General

The Building Act is designed to ensure the health and safety of persons in relation to structures and buildings. Usually a building work does not include land, except for the purposes of assessing foundations, or where earthworks are undertaken as part of the construction process (e.g. when levelling or excavating a hill to provide a building platform).

However section 71 introduces the concept of "land" being affected by a hazard. A conservative application of this reference has been to consider the site as the land, with site in this context meaning the property or legal title on consideration/DBH determinations and has been found to be a restrictive and an overly cautious application of section 71. In short the Courts have determined that even though a natural hazard may affect land (contained in a C/T), section 71 does not necessarily apply and that a sensible and case based determination needs to be made by an authority.

This assessment in turn needs to consider whether the land is connected to the building work, with the Court expressing this as being "intimately" connected. Quite clearly any practice that holds that the land in a C/T is the land affected needs to change in the light of this. Some broad applications of the Courts approach follow in relation to the main hazards which Council deals with.

Flooding adjacent to a stream or river

In the case of rivers or streams, where the width of the in-flood flow is clearly confined to the stream bed (i.e. incorporating the land adjacent to the river or stream at normal flood flow levels), and does not affect any other land. In such a case, a storm event will flood the areas of land within the wider bed (confined flood plain) of the river or stream but the building and the land intimately connected with the building or structure remain unaffected by the flood flow. If, the confining bank of the river is prone to erosion and this degrading of the land has the potential to erode part of the land intimately connected with the dwelling, then consideration needs to be given to a section 73 notice.

Coastal erosion/storm surges

In the case of coastal erosion and storm surges, if the building or structure lies outside of any defined coastal hazard zone contained in the District Plan, section 71 shall not apply. Additionally, if the coast line is so distant from the proposed building or structure as to ensure that coastal erosion/storm surges pose no credible risk now or in the future, section 71 does not apply. Likewise if an independent experts report is provided which confirms that the land on which the structure or building is to be erected is not, using normal risk assessment methodologies, likely to be subject to coastal erosion or storm surge risks over the next 50 or greater period of years, section 71 shall not apply.

Overland flow paths

Overland flows have the potential to cause a major flood. However where overland design flow paths are clearly identified and confined to a specific part of the land or which are defined by an easement on the title of the land or by a rule/map in the District Plan, a subsequent section 73 notice is not necessary. These overland flows can be designed features of a stormwater network.

Easements to protect overland flow paths are a desirable option as Council is able to impose a condition that the land so identified must be kept clear to allow the overland flow to pass uninterrupted by buildings or structures. Such an easement can be, depending on the circumstances, regarded as a means to protect the land and building work in terms of section 71(2) of the Building Act 2004.

Hazard protection/building line restrictions

A section 73 condition is not required where the District Plan; subdivision consent; or land use consent has identified a building line restriction.

A building line restriction identified by way of a consent notice, covenant (or similar means of identifying safe building sites), provides protection to the land and building work, in terms of section 71(2) of the Building Act 2004.

For example, a building line restriction may prevent building work taking place on a particular part of the site because of flooding or land instability. If the building work takes place beyond that building line, the building consent for building work would not require a section 73 condition as part of the building consent.

Expansive clay soils

Due to their reactive nature, expansive clay soils are a natural hazard. However, design techniques can overcome the potential hazard with deeper foundations and the balance of the site is safe from any consequential failures. Hence, the building consent is issued pursuant to section 71(2) of the Building Act.

8. How can building work take place on land subject to 1 or more natural hazards?

Section 71(1) of the Building Act requires the Council to refuse a building consent for building work or major alterations to a building, if the land is subject to 1 or more natural hazards, or if the building work will accelerate or worsen the adverse effects because of the natural hazard on that land or other property. However, the Council may issue a building consent if the applicant can satisfy the Council as to the requirements in section 71(2).

Building work may take place if:

- The natural hazard is sufficiently remote from the building work,
- The overland flow, or other natural hazard the land is subject to, is not deemed to be a natural hazard, such as in the cases above (e.g. of a constructed or designed overland flow path),
- The alteration(s) to the building is not a major alteration, and
- The land, building work and other property are able to be protected to damage to building work restored, in accordance with section 71(2) of the Building Act.

Section 72 of the Building Act states that despite section 71, the Council must issue a building consent for building work on land subject to a natural hazard if:

- 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;
- b) The land is subject or is likely to be subject to one 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.

Note:

If there is no waiver or modification required to be considered by the Building Code, item c above can be regarded as having been satisfied. Where the Council issues a building consent under section 72, it must impose a condition on the building consent and register a certificate under section 73 of the Building Act, when the building consent is issued.

These actions must occur every time a building consent is issued, irrespective of any notices previously registered against the property, under the Building Act or any other legislation.

Note:

The owner(s) of the land, which is subject to the natural hazard, takes and accepts the risk that the natural hazard affecting the site may under certain circumstances affect the proposed building or structure. The section 73 notice protects Council from any associated liability as set out in section 392 of the Building Act.

Without such a notice associated with each building consent, Council will not obtain the protection provided under section 392 of the Building Act. In this circumstance, registration of any notices on the certificate of title may affect the owner's ability to obtain appropriate insurance cover.

9. When is the building work sufficiently remote from the natural hazard; and/or what is the area of land that would need to be protected against the natural hazard to avoid a section 73 on the title?

The provisions of section 71 & 72 primarily relate to the land which is subject to a natural hazard. Hence, the primary consideration is whether the land is subject to flooding or instability or any other natural hazard rather than the building itself.

Case law indicates that "the land" is to be interpreted as meaning "the land intimately connected with the building". In *Auckland CC v Logan*, the meaning of "the land" in section 36(1)(a) of the Building Act 1991 was discussed as follows:

"When the statute refers, as it does, to 'the land on which the building work is to take place', is it referring to the area contiguous to the building or the land in general? Plainly, the circumstances may vary greatly. The 'land' may be a 1000-acre property, on which a new house is to be built. The house may be far away from any potential inundation. Or, as here, the site may be a smallish suburban one, which is earmarked for higher density use, and it is difficult to disassociate the building from the entire parcel of land."

Council (TDC) takes the view that if the natural hazard comes within 10 metres of the proposed building work, the natural hazard will need to be assessed and to determine what distance around the proposed building will need to be protected from the natural hazard to avoid a section 73 notice on the title of the land.

The 10-metre distance is a trigger for Council to turn its mind to the issue of the actual distance required to protect the land intimately connected with the building. This aspect is considered on a case-by-case basis.

All applications for building consent, which involve land subject to one or more hazards, are to be accompanied by an expert report (may not always be required) prepared by a suitably qualified person. The report should include an assessment of the impact or effect of the natural hazard on both the land and the proposed building.

The protect area of land could vary between 4 and 10m outside the perimeter of the building; dependent upon:

- The risk,
- The nature of the natural hazard affecting the building site; and
- The building work, which is proposed to be carried out to protect the land on which the building work is proposed to be located (Note: associated site works may also require protection).

The Earthquake Commission (EQC) takes the view that they will not compensate owners for land within 8 metres of the perimeter of the building work (refer EQCover 2014).

In deciding the appropriate distance, it is a question of determining the effect of the natural hazard on the property and determining after a hazard event, if there is likely to be a significant loss to the value of the property.

Council can be guided by the Court of Appeal in *Logan* where the Judge stated the following:

"We should add that in determining whether the statutory risk threshold under subs(1)(a) and subs (2)(b) [now section 71(1)(a) and 72(b)] has been reached, and what will be adequate provision to protect the land under subs in all conceivable circumstances of inundation or other relevant hazard, a territorial authority can be expected to take a sensible approach. Whether the risk is at the level and frequency to justify the expense and other implications of making adequate provision to protect the land and, if not, to require a warning notice, which is a blot on a title and may have significant insurance implications, will always require a sensible assessment involving consideration of fact and degree".

The decision making process relating to sections 71 and 72

It is not for the Council to advise or make decisions on behalf of the landowner. Staff should advise landowners to take independent legal and technical advice.

It is the Council's role to make sensible judgements, as suggested by the Court of Appeal (*Logan vs. ACC*), based on the information provided by the owner and the information available.

10. Statement from owner that they understand and acknowledge the nature of the hazards and the legal ramifications of a notice registered on the title under section 73 of the Building Act 2004

Clearly, the implications arising from natural hazards are not straightforward and there is a need for an owner/building consent applicant, to make an informed decision. This is particularly important where the building consent applicant is an agent acting on behalf of an owner.

Given the potential imbalance of knowledge in respect to this issue, the Courts may take the view that Council has a duty of care to ensure that an owner understands and acknowledges the nature of the hazards and any legal ramifications arising from a notice registered on the certificate of title (C/T) under the Building Act.

For this reason Council encourages a statement from the owner that he or she has consulted with expert engineers and legal advisers and understands the nature of the natural hazard and the legal ramifications of a notice registered on the title under section 73 of the Building Act 2004.

11. When is the freeboard component relevant to the flood level?

Freeboard is the component of the flood level that makes allowance for wave action. Wave action is determined by the sites exposure to wind or as a result of vehicles travelling along a road. Determinations by the Department of Building and Housing require the physical environment to be taken into account.

Hence, in an area where wave action is minimised or adjacent structures protect the building work against wave action, the freeboard may be reduced from the standard amount provided for in the flood level determination (refer DBH determinations).

However, freeboard is only relevant to residential buildings and the determination of the height of the floor level. Freeboard is not relevant in determining if the land is prone to flooding and affected by a natural hazard.

Hence, whether the land is subject to a flooding hazard is determined by the flood level without the freeboard component. If the land is not prone to a flooding event, after the freeboard component is taken away from the flood level calculation, then the land is not subject to a natural hazard and therefore, section 71 to 73 of the Building Act do not apply.

Minimise Risk:

- Ensure the building is located on the highest section of the site
- Building away from natural drainage paths or channels
- Making the floor level of the lowest floor wall above (300mm minimum) the maximum flood level
- Installing additional land drainage for low-lying areas (there must be somewhere for water to drain to)

12. What are Councils obligations under section 72 of the Building Act?

Section 72 of the Act states that a building consent authority (i.e. Council) must issue the building consent, if subsections a), b) and c) are satisfied:

- 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,*
- 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.*

Thus, a building consent on land subject to 1 or more natural hazards (erosion, flooding, inundation or subsidence, etc.) must proceed subject to a section 73 notice on the title, if the above requirements are met. Subsection (c) requires that Council determine whether it is reasonable to grant a waiver or modification of the Building Code:

- The presumption is that the hazard will not injure or take a person's life. Given that there is little or no historical evidence of injury or death associated with natural hazards occurring this tends to be a low threshold,
- While not always necessary, the reasonableness is enhanced if the building structure is able to resist damage when it is subject to a hazard event; and
- In a number of instances there will not be a waiver or modification of the building code to grant. In these circumstances this prerequisite is met.

When determining whether it is reasonable to grant a waiver or modification of the Building Code, it is necessary to consider the risk to the public and/or the building occupants as well as the potential need to make the building more resistant to the effects of the natural hazard, if such an event was to occur. For example, with careful design a building could be made more robust or resilient to the natural hazard.

Examples of how this could be done are set out in Table 1. The risk to people can be assessed on the factors in Table 2, in conjunction with Table 3.

Table 1

Natural Hazard	Design Consideration
Flooding/Inundation	Damage resistant building materials or building above a known flood level
Wave run up zone on the foreshore	Deeper foundations to resist scour and other protective work
Erosion	The ability to remove the building or to allow a building with a life to match the erosion time frame

Table 2

Natural hazard	High*	Medium*	Low*
Erosion			<input checked="" type="checkbox"/>
Falling debris	<input checked="" type="checkbox"/>		
Subsidence (large scale)		<input checked="" type="checkbox"/>	
Subsidence (small scale)			<input checked="" type="checkbox"/>
Inundation (sudden)	<input checked="" type="checkbox"/>		
Inundation (gradual)			<input checked="" type="checkbox"/>
Slippage (large scale)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Slippage (small scale)			<input checked="" type="checkbox"/>

* Risk to people (refer to Table 3 for clarification)

Table 3

Hazard for which building consents are able to be granted under section 72 and subject to a notice under section 73			
Hazard	Example	Notes	Waiver/Modification
Coastal erosion	Land on the foreshore subject to erosion	This is usually a gradual process, which will allow people to evacuate safely.	The relevant waiver or modification is related to the land stability requirements in Clause B1 of the Building Code and is supported by a geotechnical report.
Bank or sheet erosion	Land with instability or sloping land	Subject to the scale of the potential failure being moderate to minor. The failure being of such magnitude that people would survive such an event without risk to life or injury.	The relevant waiver or modification is related to the land stability requirements in Clause B1 of the Building Code and is supported by a geotechnical report.
Subsidence or slippage	Land with instability of such a scale that is likely to cause damage to building	Subject to the scale of the potential failure being moderate to minor. The failure is of such a magnitude that people would survive an event without risk to life and injury.	The relevant waiver or modification is related to the land stability requirements in Clause B1 of the Building Code and is supported by a geotechnical report.

<p>Inundation, flooding, overland flow, storm surge, tidal effects and ponding</p>	<p>Flooding of land on where building work is proposed</p>	<p>In general, as long as the flooding process is gradual, people are able to leave or be evacuated safely. This is dependent on the ability to contact people. Dwellings in remote places could be more of a problem.</p>	<p>Waivers only able to be considered for habitable floor space which has a 2% probability of being flooded within a 50 year period, as provided for in E1 of the Building Code.</p>
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