

# NATURAL HAZARDS 28

Key:

Recommend changes to notified chapter are shown in green underlined text for additions and ~~green strike~~ through text for deletions. Revised chapter showing amendments recommended by Ms Amy Bowbyes, s 42A report author, at the hearing of Chapter 28 Natural Hazards on 14 March 2017.

Recommend changes to notified chapter are shown in underlined text for additions and ~~strike through text~~ for deletions. Appendix 1 to s42A report, dated 15 February 2017.

## 28 Natural Hazards

### 28.1 Purpose

The purpose of this chapter is to provide a policy framework to address natural hazards throughout the District. The District is recognised as being subject to multiple hazards and as such, a key issue is ensuring that when development is proposed on land potentially subject to natural hazards, the risk is managed or mitigated to tolerable levels. In instances where the risk is intolerable<sup>1</sup>, natural hazards will be required to be avoided. Council has a responsibility to address the developed parts of the District that are subject to natural hazard risk through a combination of mitigation measures and education, to lessen the impacts of natural hazards.

### 28.2 Natural Hazard Identification

Natural Hazards that exist in the District include:

- Flooding and inundation
- Erosion and deposition (including landslip and rockfall)
- Land instability
- Earthquakes and liquefaction
- Avalanche
- Alluvion<sup>2</sup>, avulsion<sup>3</sup> and subsidence
- Tsunami / seiche<sup>4</sup>
- Fire

The District is located in an inland mountainous environment and as such can also be exposed to climatic extremes in terms of temperature, rain and heavy snowfall. This is likely to increase with climate change.

Comment [AB1]: 383.1

Council holds information in a natural hazards database which has been accumulated over a long period of time by both the Council and the Otago Regional Council. The database is continually being

<sup>1</sup> The concept of risk 'tolerability' is derived from the Otago Regional Council's Regional Policy Statement, which provides additional guidance as to the management of natural hazards.

<sup>2</sup> Increase in the size of a piece of land due to deposits by a river.

<sup>3</sup> Abandonment of a river channel and the formation of a new channel.

<sup>4</sup> Oscillation of water due to earthquake shaking

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updated and refined as new information is gathered. Given the ongoing updates occurring, with the exception of flooding information, which has historically been mapped, Council has decided not to map natural hazards as part of the District Plan. This decision has been made due to the fact the maps may quickly become out of date as new information becomes available. Council will rely upon the hazards database in the consideration of resource consents and building consents.

The database is readily available to the public through the Council website and at Council Offices.

Additional to the Resource Management Act, Council has obligations to address hazards under other legislation such as the Building Act 2004, the Civil Defence and Emergency Management Act 2002 and the Local Government Act 2002. In particular the provisions of the Building Act provide Council with the ability to refuse to issue a building consent in certain circumstances where a property is subject to natural hazards. As such, Council uses the provisions in the District Plan as just one tool to address natural hazard risk.

## 28.3 Objectives and Policies

28.3.1	Objective – <del>The effects of</del> <b>The risk posed by natural hazards on to the community and the built environment are minimised is avoided or mitigated to a tolerable levels.</b>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [SG2]: Consistency v policies in chapter</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [SG3]: 768.25</div> <div style="border: 1px solid black; padding: 2px;">Comment [AB4]: 768.25</div>
<b>Policies</b>		
28.3.1.1	Ensure assets or infrastructure are constructed and located so as to avoid or mitigate <del>the potential risk of damage</del> to human life, <b>and the potential risk of damage to property and infrastructural networks and other parts of the environment to the extent practicable, whilst acknowledging the locational, technical and operational requirements of regionally significant infrastructure.</b>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB5]: 806, FS1097, FS1117</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [SG6]: 806.194</div> <div style="border: 1px solid black; padding: 2px;">Comment [SG7]: 805.67</div>
28.3.1.2	Restrict the establishment of activities which <del>have the potential to significantly increase natural hazard risk, including where they will have an intolerable or may have an impact</del> upon the community and built environment.	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB8]: 805.67, 806.194, 719.145.</div> <div style="border: 1px solid black; padding: 2px;">Comment [AB9]: 621.107, 669.21, 712.15, 768.27 and 806.195</div>
28.3.1.3	Recognise that some areas that are already developed are now known to <del>be at risk from subject to</del> natural hazards risk and minimise such risk as far as <del>possible practicable</del> while acknowledging that <b>landowners the community</b> may be prepared to accept a level of risk.	<div style="border: 1px solid black; padding: 2px;">Comment [AB10]: Additional minor non-substantive change to improve wording.</div>
28.3.1.4	<del>Allow Enable</del> Public Bodies the Regional and District Council exercising their statutory powers to carry out natural hazard mitigation activities, <b>while recognising the need to mitigate potential adverse effects that may result from natural hazard mitigation works.</b>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB11]: 768.28</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB12]: 798</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB13]: Minor non-substantive change to improve wording</div> <div style="border: 1px solid black; padding: 2px;">Comment [AB14]: 806.196</div>
28.3.1.5	Where practicable, reduce the risk posed by natural hazards to the existing built environment and the community.	
28.3.2	<b>Objective - Development on land subject to natural hazards only occurs where the risks to the community and the built environment are avoided or appropriately managed or mitigated.</b>	<div style="border: 1px solid black; padding: 2px;">Comment [AB15]: 806, FS1097, FS1117</div>
<b>Policies</b>		
28.3.2.1	<del>Seek to avoid intolerable</del> <b>Avoid significantly increasing</b> natural hazard risk, <b>acknowledging that this will not always be practicable in developed urban areas.</b>	<div style="border: 1px solid black; padding: 2px;">Comment [AB16]: 798</div>
28.3.2.2	Allow <del>Enable</del> subdivision and development of land subject to natural hazards where the proposed activity does not: <ul style="list-style-type: none"> <li>• <del>Accelerate or worsen the natural hazard and/or its potential impacts risk to an unacceptable intolerable level.</del></li> <li>• Expose vulnerable activities to intolerable natural hazard risk.</li> <li>• Create an <b>unacceptable intolerable</b> risk to human life.</li> </ul>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB17]: 433.102, 768.31.</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB18]: 768.32.</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Comment [AB19]: 798</div> <div style="border: 1px solid black; padding: 2px;">Comment [AB20]: 798</div>

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- Increase the natural hazard risk to other properties to an **unacceptable intolerable level**. Comment [AB21]: 798
- Require additional works and costs, **including remedial works**, that would be borne by the community public. Comment [AB22]: 798
- 28.3.2.3 Ensure all proposals to subdivide or develop land that is subject to natural hazards **risk** provide an assessment **covering that meets the following information requirements, ensuring that the level of detail of the assessment is commensurate with the level of natural hazard risk**. Comment [AB23]: 768.32, 621.109, 669.23 & 712.17, 806.198, 806.199  
Comment [AB24]: 621.110, 668.24 & 712.18  
Comment [AB25]: 806.200

  - The type, frequency and scale of the natural hazard **and the effects of a natural hazard on the subject land**. Comment [AB26]: 621.110, 668.24 & 712.18
  - **The vulnerability of the activity in relation to the natural hazards**.
  - **The effects of a natural hazard event on the subject land**. Comment [AB27]: 621.110, 668.24 & 712.18
  - **The potential for the activity to exacerbate the natural hazard risk both within and off beyond the subject land**. Comment [AB28]: Minor non-substantive change to improve wording
  - The potential for any structures on the subject land to be relocated.
  - The **location**, design and construction of buildings and structures to mitigate the effects of natural hazards, such as the raising of floor levels. Comment [AB29]: 621.110, 668.24 & 712.18
  - **Site layout and m-Management techniques to avoid that avoid or manage or mitigate the adverse effects of natural hazards risk to a tolerable level, including with respect to access ingress and egress during a natural hazard event**. Comment [AB30]: 798  
Comment [AB31]: 806, FS1097, FS1117
- 28.3.2.4 Promote **Where practicable, promote** the use of natural features, buffers and appropriate risk management approaches in preference to hard engineering solutions in mitigating natural hazard risk. Comment [AB32]: 621.110, 668.24, 712.18 & 768.33. Additional minor non-substantive changes to improve wording  
Comment [AB33]: 768.34
- 28.3.2.5 Recognise that some infrastructure will need to be located on land subject to natural hazard risk.
- 28.3.3 **Objective - The community's awareness and understanding of the natural hazard risk in the District is continually enhanced.**

### Policies

- 28.3.3.1 Continually develop and refine a natural hazards database in conjunction with the Otago Regional Council, (as a basis **consideration** for Council decisions on resource consent applications or plan changes and for the assessment of building consents). Comment [AB34]: 768.36
- 28.3.3.2 Ensure the community has access to the most up-to-date hazard information available.
- 28.3.3.3 Increase the community awareness of the potential risk of natural hazards, and the necessary emergency responses to natural hazard events.
- 28.3.3.4 Monitor hazard trends and changes in risk and consider action should risks become **unacceptable intolerable**. Comment [AB35]: 798

## 28.4 Other Relevant Provisions

- 28.4.1 **District Wide Rules** Comment [AB36]: Minor, non-substantive changes to increase consistency with other PDP Chapters.

Attention is drawn to the following District Wide chapters. All provisions referred to are within Stage 1 of the Proposed District Plan, unless marked as Operative **District Plan (ODP)**.

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1 Introduction	2 Definitions	3 Strategic Direction
4 Urban Development	5 Tangata Whenua	6 Landscapes
24 Signs (18 ODP Operative)	25 Earthworks (22 ODP Operative)	26 Historic Heritage
27 Subdivision	29 Transport (14 ODP Operative)	30 Energy and Utilities and Renewable Energy
31 Hazardous Substances (16 ODP Operative)	32 Protected Trees	33 Indigenous Vegetation
34 Wilding Exotic Trees	35 Temporary Activities and Relocated Buildings	36 Noise
37 Designations	Planning Maps	

### 28.5 Information Requirements

Development proposals affected by, or potentially affected by, natural hazards as identified in Council's natural hazards database will require an accompanying assessment of natural hazards effects commensurate to the level of risk posed by the natural hazard. Council holds natural hazard information that has been developed at different scales and this should be taken into account when assessing potential natural hazard risk. It is highly likely that for those hazards that have been identified at a 'district wide' level, further detailed analysis will be required.