



**YOUR PLAN OUR FUTURE**  
**TIMARU DISTRICT PLAN REVIEW**  
LAND USE PLAN

## Timaru District Plan Review

### Topic 4

# Natural Hazards

Discussion Document, November 2016



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This document outlines the issues our district faces in relation to natural hazards.

We welcome your feedback on this topic.

**Dave Jack**  
Timaru Ward Councillor

## 1.0 Introduction

### 1.1 Purpose

Timaru District Council has commissioned this report to identify the 'issues' with how the Timaru District Plan 2005 manages natural hazards. The report subsequently identifies the potential 'options' to address these issues and the strengths and weaknesses of each option.

The Council has multiple legislative responsibilities for addressing natural hazards. The District is subject to a number of natural hazards and the Council can use a number of options to address natural hazards through the District Plan.

The report is intended to inform and provide a basis for public consultation on this matter and to some degree stimulate debate. The report forms part of a suite of public consultation measures that may be used to inform a potential change to the District Plan.

### 1.2 Report Format

The remainder of the report has been set out as follows:

- Section 2** identifies and describes the issue.
- Section 3** summarises the relevant statutory matters.
- Section 4** briefly explains the current Timaru District Plan approach to natural hazards.
- Section 5** discusses some potential options to deal with natural hazards.

## 2.0 Issue Identification

Natural hazards are defined in the Resource Management Act 1991 as “any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment”.

### Issue 1

Should areas of known natural hazard risk be mapped in the District Plan?

Existing settlements and infrastructure within the District are subject to natural hazards, particularly flooding and coastal erosion. Other hazards that are known to exist include tsunami, fault rupture, lateral spreading, liquefaction, landslides, ground shaking, rockfall, alluvial fans, land instability, overland flow paths and fire. At present these additional significant hazards, with varying degrees of risk, are not specifically identified and addressed by the District Plan. The current approach also means that the presence of a known natural hazard is not necessarily a trigger for resource consent. There is a need to recognise and provide for the existence of these hazards when undertaking development, particularly as knowledge about influences on natural hazards such as climate change increases. In some instances the natural hazard risk is high and development should be discouraged in certain areas. In other instances critical infrastructure and development exists in locations subject to natural hazards and hazard mitigation methods, such as stopbanks and other hard protection structures are required.

Council’s knowledge of natural hazards in the District is continually growing as further study is undertaken, including that in conjunction with Canterbury Regional Council. Therefore it is important that the approach to addressing natural hazards in the District Plan can easily accommodate new information as it comes to light. As a result, consideration of the nature and extent of Natural Hazard Mapping in the District Plan is required.

### Issue 2

Should the District Plan take a sensitivity based approach to activities in natural hazard areas?

Assessing natural hazard risk on a sensitivity basis allows for the District Plan to provide for appropriate activities in hazard prone areas. In a rural context this could be restricting the use of land to grazing / farming as opposed to allowing a residence to be constructed. In an urban location this could be using flood prone land for a park or carpark as opposed to residential development. The other way a sensitivity approach can be applied is the restriction of activities that can influence or increase the hazard risk.

Flooding is an issue in a number of parts of the District. Parts of the District are protected from flooding (to a certain design standard) by structures such as stopbanks. In urban areas during heavy rainfall events the capacity of the existing stormwater network can be exceeded resulting in overland flows of water. Changes to land use such as involving increases in impermeable surfaces or the construction of structures (e.g. dwellings with minimum floor levels and / or fences in overland flow paths), can result in changes to where overland flows are directed – potentially causing flooding on properties that previously may not have experienced flooding. Overland flows on rural land can also be affected by development such as farm lanes acting as a barrier or dam to these flows. The other contributing factor is changes in rainfall intensities due to climate change. Whether development in areas identified as overland flow paths should be dealt with in the natural hazards chapter or elsewhere requires consideration as there is crossover with other plan provisions – for example impermeable surface limits in zone provisions.

Minimum floor levels also make people feel ‘safe’ because their dwelling is above a certain height. This can create the need to evacuate people from dwellings surrounded by water in a flood event which brings with it additional risks.

Private property rights are a relevant consideration in the wider approach to natural hazards. Providing provisions that are overly restrictive is counter-productive to sustainable management and the continued growth of the District. This needs to be balanced against natural hazard risk to people and property.

## 3.0 Statutory Matters

Council is responsible for addressing natural hazards under a number of different pieces of legislation such as the Resource Management Act, the Local Government Act, the Building Act, and the Civil Defence and Emergency Management Act.

This section briefly outlines the relevant statutory documents under the Resource Management Act that influence and direct how Council addresses natural hazards. It should be noted some of these documents are more directive than others.

### **Resource Management Act 1991**

The Council as a territorial authority in terms of the Resource Management Act 1991 has specific responsibilities for natural hazards under section 31 to control potential effects of the use or development of land for the purpose of avoidance or mitigation of natural hazards. This is achieved in the District Plan through objectives, policies and methods (rules). There are also specific provisions in the Act that allow Council to refuse an application for subdivision consent when the land is subject to natural hazards.

### **National Policy Statement – New Zealand Coastal Policy Statement 2010**

The New Zealand Coastal Policy Statement 2010 seeks to ensure coastal hazard risks are managed taking into account climate change. Of particular relevance the policy statement in Policy 25 seeks to avoid redevelopment, or change in land use, that would increase the risk of adverse effects from coastal hazards.

### **Canterbury Regional Policy Statement 2013**

The Canterbury Regional Policy Statement 2013 has a hierarchical approach to natural hazards with a priority order of (1) Avoidance (2) Mitigation (3) Response and Recovery. The Regional Policy Statement, following from the New Zealand Coastal Policy Statement also has an objective seeking to avoid new subdivision, use and development of land that increases the risks associated with natural hazards. The Council is required to give effect to the Regional Policy Statement in the District Plan.

### **Issue 3**

Should the District Plan include provisions relating to natural defences?

Natural defences, such as wetlands or vegetated dunes, have a role to play in addressing river and coastal flooding and could be (a) protected by plan provisions and (b) considered as an alternative to hard protection structures.

#### **Other Issues:**

Coastal hazards are currently dealt with jointly by Canterbury Regional Council and Timaru District Council which can result in duplication of resource consent requirements creating duplication of process. Elsewhere in the region Canterbury Regional Council have 'handed over' responsibility for coastal hazards to district councils with the benefit of avoiding duplication.

Climate change is also a factor influencing the frequency and nature of natural hazard events and needs to be considered when deciding on an approach to manage natural hazard risk in the District Plan.

### **Canterbury Regional Coastal Environment Plan 2005**

The Canterbury Regional Coastal Environment Plan 2005 addresses coastal erosion and sea water inundation hazards. In addition to objectives and policies the Plan has a suite of rules to control development in coastal hazard zones. The rules are tiered based on the likelihood of event occurring (Hazard 1 and 2). It is noted not all regional coastal plans have controls in this regard. Also in 2015 Canterbury Regional Council through changes to the Regional Policy Statement and this Plan 'handed over' responsibility for coastal hazards to Christchurch City Council, Waimakariri District Council and Selwyn District Council within their districts.

### **Canterbury Land and Water Regional Plan 2015 (partly operative)**

The Canterbury Land and Water Regional Plan 2015 has a small number of natural hazards policies. The Plan also controls activities that can increase or decrease hazard risk – most prominently activities on the beds of rivers.

### **Canterbury Regional Council Flood Protection and Drainage Bylaw 2013**

People undertaking activities within the vicinity of Canterbury Regional Council's flood protection and flood control works will require authority from the regional council under this Bylaw where the activity could impact on the integrity or efficient operation of the works. This means activities that require consent from the Timaru District Council may also require an approval under the Bylaw.

### **A Regional Approach to Managing Natural Hazard Risk**

A regional approach to natural hazard risk is being developed for Canterbury under the Canterbury Risk Reduction Forum. The regional approach is a collaborative initiative involving all local authorities in the region and Canterbury Civil Defence Emergency Management. The approach contains a work programme for managing natural hazard risk in Canterbury, focussing on four key areas: Roles and Responsibilities; Collaboration and Coordination; Regional Research; and Communication and Engagement.

### **Building Act 2004**

The Building Act 2004 includes provisions relating to building work on land subject to natural hazards. In some instances the Council has the ability to refuse to issue a building consent due to natural hazard risk.

### **Civil Defence and Emergency Management Act 2002**

The Civil Defence and Emergency Management Act 2002 has the purpose of improving and promoting the sustainable management of hazards in a way that contributes to the social, economic, cultural and environmental well-being and safety of the public and the protection of property. This includes encouraging and enabling communities to achieve acceptable levels of risk by identifying risks and applying risk reduction management practices.

## 4.0 Timaru District Plan

The current District Plan identifies three specific natural hazards, being river flooding, coastal erosion and flooding, and filled sites. The District Plan contains issues, objectives and policies relating to these hazards and specific natural hazards rules for flooding (minimum floor heights, setbacks from stopbanks, and requirement for consent where risk exceeds a 2% chance in any year). There are also general zone provisions for setbacks from waterbodies.

Mapping natural hazards is an integral part of how Council manages, communicates and minimises the risk of natural hazards. The District Plan does not currently map natural hazards aside from the Coastal Inundation Line. All other hazards are mapped within Council's hazard database. Therefore any hazards not mapped within the District Plan are only considered by the Council at building consent assessment time, or if a resource consent application is lodged e.g. for a subdivision.

With regard to flooding hazards, the District Plan allows for residential development in some flood prone areas, provided a minimum floor level is met.

The District Plan addresses the issue of filled land as a natural hazard. Given it is a human created phenomena it is considered the issue is best dealt with elsewhere in the District Plan<sup>1</sup>.



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<sup>1</sup>Filled land is addressed in Topic 7: Soils, Minerals and Earthworks Discussion Document.

# 5.0 Options

The main options to manage natural hazards in the District Plan are summarised as:

- Status quo (i.e. retain the current District Plan approach).
- Amend (i.e. current District Plan approach requires amendment to align it with current best practice and to give effect to national and regional planning documents).

These options are briefly described in turn below, followed by a brief assessment of their strengths and weaknesses. Please note other options exist for the identified issues that have not been reflected here to keep the document concise.

## Option 1 – Status quo

The following strategic approaches in the current District Plan are still relevant and should be included in the next District Plan:

- A stand-alone natural hazards chapter.
- Control river flooding, coastal erosion / flooding and filled land through the resource consent process (noting it is suggested filled land is addressed elsewhere in the plan).

<b>Strengths</b>	<ul style="list-style-type: none"> <li>▪ Stand-alone chapter means hazards are prominent in the District Plan.</li> <li>▪ Current approach addresses river flooding, and coastal erosion and flooding, natural hazard risks in the District.</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>▪ Current approach does not address all relevant natural hazards, such as tsunamis, landslides, liquefaction, lateral spreading, fault rupture, ground shaking, rockfall, alluvial fans, land instability, overland flow paths and fire.</li> <li>▪ Current approach only controls development in floodable areas.</li> <li>▪ Flooding is not mapped within the District Plan so a case by case assessment is required to establish if a site is flood prone.</li> <li>▪ Current approach to flooding is based upon risk of flooding not sensitivity of activity to flooding.</li> <li>▪ Filled land is not a natural hazard.</li> <li>▪ Current policy approach is to prevent land being developed in the most hazard prone areas but rules provide for residential development provided a certain floor level is met.</li> <li>▪ Some rules related to natural hazard risk are located in the zone chapters.</li> <li>▪ The District Plan will not give effect to the Regional Policy Statement where new subdivision, use and development of land increases the risks associated with natural hazards.</li> </ul>

## Option 2 – Amend

The intent of the strategic approach in the current District Plan is still valid but the approach requires amendment to align it with current best practice and to give effect to national and regional planning documents as follows:

- Consider mapping other hazards not currently mapped in the District Plan, with the priority being those identified in the Regional Policy Statement (flooding, coastal erosion and earthquake hazards). A technical review of the information underpinning hazard mapping may be required should hazard areas be identified on a risk basis.
- Rules to address the hazards mapped in response to the above bullet point.
- Filled land is not a natural hazard and is best dealt with elsewhere in the District Plan.
- Provide for activities in hazard areas on a sensitivity / risk based basis.
- Provisions to give effect to Policies 25 – 27 of the New Zealand Coastal Policy Statement regarding development in areas of coastal risk, provisions for natural defences against coastal hazards and protecting significant existing development from coastal hazard risk.
- Avoid land use that increases risk associated with natural hazards to give effect to the Regional Policy Statement.
- Identify and provide provisions for high hazard areas to give effect to Regional Policy Statement policies that require avoidance of inappropriate development in high hazard areas.
- Include objectives and policies regarding active earthquake fault traces, liquefaction and lateral spreading to give effect to the Regional Policy Statement.
- Address other known hazards such as rockfall and alluvial fans through objectives and policies.
- Address fire hazards, particularly in rural areas through objectives and policies, coupled with rules such as those requiring setback from forest and bush, and / or onsite water storage for fire-fighting purposes.
- Include provisions restricting inappropriate activities on or around natural defences.
- Include a policy framework that encourages the use of natural defences, where practicable.

<b>Strengths</b>	<ul style="list-style-type: none"> <li>▪ The inclusion of additional hazard mapping and rules means the District Plan will be able to give effect to the Regional Policy Statement by ensuring all relevant natural hazards are included in the District Plan, and effectively address natural hazard risk.</li> <li>▪ Identifying hazard areas on a risk basis assists with developing a more comprehensive suite of provisions to manage natural hazards (provisions based on risk / sensitivity as opposed to provisions simply based on the presence of a hazard).</li> <li>▪ Assessing natural hazard risk on a sensitivity basis allows for the District Plan to provide for appropriate activities in hazard prone areas (for example the use of flood prone areas for a truck yard from which vehicles can be relocated), and restrict others.</li> <li>▪ Assessing natural hazard risk on a sensitivity basis allows for consideration of resource consent for activities that are sensitive to natural hazards on a 'case by case' basis.</li> <li>▪ Filled land will be categorised appropriately by the District Plan.</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>▪ Further technical work may be required to ensure hazard information is robust enough to be included in the District Plan including identifying areas of high hazard risk.</li> <li>▪ Resource consent may be required for activities in areas where consent previously was not required resulting in additional development costs.</li> <li>▪ Land values could be affected should land be identified as subject to natural hazards (noting the mapping of a risk does not change the fact the risk exists).</li> </ul>





Pleasant Point flooding, view over George Street and Horton Street

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