

## 3.2 Natural Hazards

### Introduction and Issues

Council is required, under Section 31 (b) of the Resource Management Act, to control the effects of activities including the avoidance or mitigation of natural hazards.

Environment Waikato has a role in the collection, analysis, storage, and communication of natural hazard information to territorial authorities. It is Hamilton City Council's responsibility to develop specific objectives, policies, and rules in the District Plan to control the use of land to avoid and mitigate natural hazards.

At present there is a lack of information about a number of hazards (such as earthquakes) and the risk to the city associated with them. Where information is available about these hazards it is often at a scale not appropriate to the city. Current information on natural hazards is limited to flooding and accelerated erosion, therefore land use controls will need to focus on these areas. The city needs to review its exposure to a wider range of hazards, and continue to develop policy and rules accordingly.

The majority of gully and riverbanks within the city have a sandy substrate and are therefore vulnerable to erosion. This risk is increased by removal of vegetation from these banks. Areas adjacent to parts of the river and the gully streams are also vulnerable to flooding events, as are parts of the city located on peat soils or around peat lakes or wetlands.

The principal issues regarding natural hazards in Hamilton are:

- **Accentuated risk to human life and property from natural hazards as a result of land use practices and occupation of hazard prone areas.** Increased risk to property and human life from natural hazards can result from occupation of hazard prone areas as well as land use practices such as slope excavation, disturbance of soil and vegetation, and building of structures.
- **An increased exposure to risk due to a lack of information and knowledge about natural hazards.** Current information limits the identification of hazard prone areas and the level of risk associated with these areas. Without a comprehensive information base, planning to reduce the effects of hazards tends to be reactive.

### Objective 3.2.1 Natural Hazards

To identify and mitigate the impacts from natural hazards on people, property, and the environment.

### Policies

- a) Avoid development in areas identified as being subject to significant risk from natural hazards (or limit its intensity) unless the risk of damage can be mitigated.
- b) Control development in hazard prone areas to minimise the impacts of flooding and accelerated erosion.

- c) Ensure that the disposal of stormwater occurs in a manner that minimises the risk of flooding, erosion, and land instability.

## Reasons

Historically, development has often occurred in areas subject to natural hazards and large parts of the city are already established in areas that carry some degree of risk (e.g. floodplains, river and gully banks, and peat soils). There is still considerable demand for development in areas subject to potential hazard (notably the gullies). Where possible the best means of guarding against natural hazards is to avoid locations that are subject to risk.

The banks of the river and gullies are prone to erosion, land instability and flooding and the District Plan must control or manage development in areas of known risk, particularly the disposal of stormwater. The ongoing identification of further hazard prone areas and establishing levels of risk associated with these areas is important to allow for a proactive response to managing and reducing exposure to natural hazards within the city.

The Temple View catchment is characterised by soils with poor soakage qualities and steep topography to the north and west of the Temple View urban area. These elements combined make the area particularly susceptible to overland flow and flooding in heavy rainfall events. Parts of the Temple View urban area have been identified as prone to flooding events and as secondary flood flow paths. Flooding events can become a hazard to both people and their property if not managed correctly.

It is not practicable, either through regulation or by other means, to provide total security against all natural hazards. However, in areas where risk can be defined, such as along the Waikato River corridor or in Temple View flood hazard areas, it will be necessary to avoid or restrict subdivision and land use development. In some locations such as on river or gully banks, it will be appropriate to control the impact of development on the environment.

Some areas within the city are built on flood plains or flood prone areas. The protection of these is costly and they are still subject to periodic threat from flood damage. To reduce the degree of this hazard in the future, urban development of existing rural areas which are natural flood plains, or flood prone areas in Temple View should be avoided.

## Methods

The Natural Hazards objective and policies will be implemented through the following methods:

### District Plan

- **Environmental Protection Overlay** - provides performance standards for minimum floor levels and building setbacks from waterways and controls on earthworks, vegetation clearance and structures in erosion and flood prone areas.
- **Reserve Contributions** - allow for esplanade reserves to be taken to protect natural hazard prone areas.

- **Subdivision and Development Rules** - will provide extra controls in relation to potential hazard areas and stormwater disposal options.

#### **Other Methods**

- **Council Work Programmes** - can also serve to mitigate the effects of natural hazards through stormwater maintenance programmes and other flood hazard mitigation works.
- **A Natural Hazards Register** - development of a register which contains all of the available information on hazards within the city which can be passed onto affected landowners.
- **Research and Monitoring** - update of the Hazards Register and research into other potential hazards and methods for mitigation.
- **Regional Plan** - provides for the complementary management of natural hazards by the Regional Council through the collection, analysis, storage and communication of natural hazard information to local authorities.
- **Building Act 1991** - provides standards/controls on the structural integrity of buildings (e.g. earthquake compliance) through Project Information Memoranda (PIM's) and provides information on natural hazards (e.g. flooding and instability) relating to particular sites.
- **Riverside Reserve Act Management Plan** - contains objectives and policies to maintain the stability of the riverbanks.

## **Anticipated Environmental Results**

The following environmental results are anticipated:

- Retention of the existing gully landform in a largely unmodified state.
- Future urban development will avoid hazard prone areas.
- An improved awareness of the presence and risk of natural hazards for the city.