The Dream Home, Dream Site Nightmare

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Retirement and Vulnerability

- Most vulnerable older people:
  - Before and after retirement poor
  - After or near retirement catastrophe:
    - Financial collapse
    - Illness
    - Adverse natural events

Retirement Dreams

- For many retirement has been:
  - Transition from work to play.
  - Freedom to enjoy new discretionary time.
  - New home in environments loved during holidays and recreation.
- For many who can afford it, retirement is marked by big investments in big homes on vulnerable sites.
- Adverse events transform from secure to very uncertain futures.

Secure Futures Shattered

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Dream Home, Dream Site, Nightmare Loss

- Upside:
  - No one died.
  - Family assistance.
- Downside:
  - Two years of uncertainty about payout.
  - Site purchased $290,000 no rebuild allowed on site.
  - Site sold $26,000.
  - Contents insurance and some EQC pay out needed to purchase a replacement site - $92,000.
  - Stress and illness.
  - Lost confidence in ‘experts’ and public agencies.

Quick Site Assessment Tool

- Raising awareness of why sites matter.
- Raising awareness of the different risks and regulations around sites vs dwellings.
- Helping people to recognise possible adverse natural events vulnerabilities.
- Identifying questions to ask.
- Focus outside of earthquakes and tsunami to the more frequent events.

Two Prototypes

- 1st prototype evolved from the house resilience work by BRANZ
- Developed as a calculator
- Tested with older people
  - Easy to use.
  - Raised awareness.
  - Exposed inconsistencies in council response.
- Abandoned because practitioners couldn't agree on sentinel measures and calibrations

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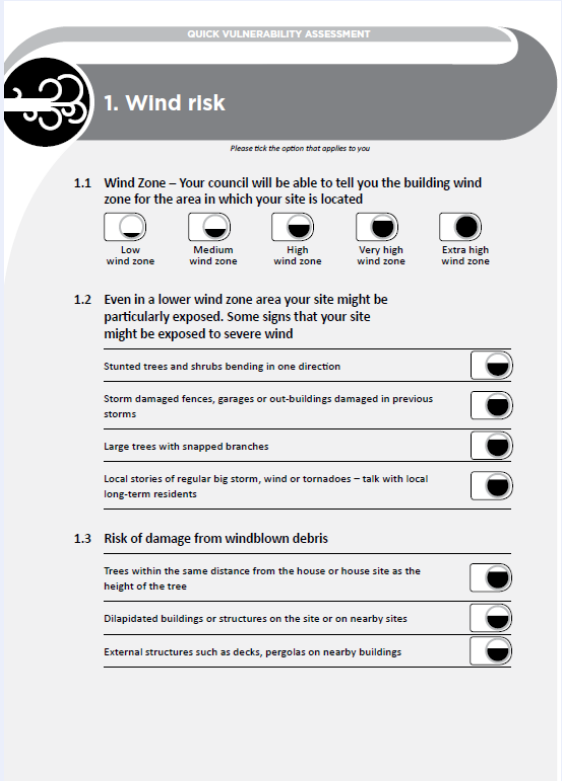
Prototype 1



QUICK VULNERABILITY ASSESSMENT

1. Wind risk

Please tick the option that applies to you

1.1 Wind Zone – Your council will be able to tell you the building wind zone for the area in which your site is located

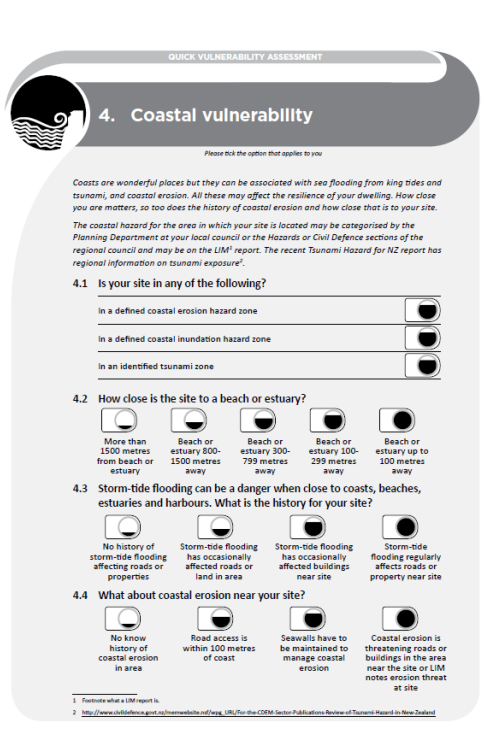
Low wind zone | Medium wind zone | High wind zone | Very high wind zone | Extra high wind zone

1.2 Even in a lower wind zone area your site might be particularly exposed. Some signs that your site might be exposed to severe wind

- Stunted trees and shrubs bending in one direction
- Storm damaged fences, garages or out-buildings damaged in previous storms
- Large trees with snapped branches
- Local stories of regular big storm, wind or tornadoes – talk with local long-term residents

1.3 Risk of damage from windblown debris

- Trees within the same distance from the house or house site as the height of the tree
- Dilapidated buildings or structures on the site or on nearby sites
- External structures such as decks, pergolas on nearby buildings



QUICK VULNERABILITY ASSESSMENT

4. Coastal vulnerability

Please tick the option that applies to you

Coasts are wonderful places but they can be associated with sea flooding from king tides and tsunami, and coastal erosion. All these may affect the resilience of your dwelling. How close you are matters, so too does the history of coastal erosion and how close that is to your site.

The coastal hazard for the area in which your site is located may be categorised by the Planning Department at your local council or the Hazards or Civil Defence sections of the regional council and may be on the LIM[1] report. The recent Tsunami Hazard for NZ report has regional information on tsunami exposure[2].

4.1 Is your site in any of the following?

- in a defined coastal erosion hazard zone
- in a defined coastal inundation hazard zone
- in an identified tsunami zone

4.2 How close is the site to a beach or estuary?

More than 1500 metres from beach or estuary | Beach or estuary 800-1500 metres away | Beach or estuary 300-799 metres away | Beach or estuary 100-299 metres away | Beach or estuary up to 100 metres away

4.3 Storm-tide flooding can be a danger when close to coasts, beaches, estuaries and harbours. What is the history for your site?

No history of storm-tide flooding affecting roads or properties | Storm-tide flooding has occasionally affected roads or land in area | Storm-tide flooding has occasionally affected buildings near site | Storm-tide flooding regularly affects roads or property near site

4.4 What about coastal erosion near your site?

No know history of coastal erosion in area | Road access is within 100 metres of coast | Seawalls have to be maintained to manage coastal erosion | Coastal erosion is threatening roads or buildings in the area near the site or LIM notes erosion threat at site

1 Footnote what a LIM report is.

2 http://www.civildefence.govt.nz/memwebsite.nsf/wpg_URL/For-the-CDEM-Sector-Publications-Review-of-Tsunami-Hazard-in-New-Zealand

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Prototype 2

- More discursive
- More pictorial
- Encourages:
  - Structured reflection
  - Engagement with lived community expertise
  - Active use of technical information
  - People to deal with information asymmetry
- Development exposed significant under-servicing in New Zealand compared to other jurisdictions

Prototype 2

QUICK VULNERABILITY ASSESSMENT

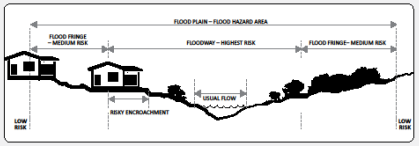
3. Rivers and streams

Whether your site is vulnerable to flooding from rivers or streams depends on:

- Where your site is relative to the flood plain of a river or stream.
- How high your site is relative to the flood plain.

Of course, actual flooding depends on particular conditions such as rainfall and sometimes tides as well as the storm water system's capacity.

Mark on this Picture where you think your site is relative to a stream or river



SO YOU LOVE THE SITE HINTS

Think about the roads that lead to the site you are thinking about as well as the site itself. Your site might be fine in a flood but you might not be able to get in or out. If you choose a site like that you need to be prepared to accept a period of isolation and be able to be self-sufficient in food and water and be able to keep safe over that time. You need to ask will the house you build or any existing house be up to looking after you over that period? Go see the separate guidelines on resilient houses on www.resilience goodhomesco.nz.

QUICK VULNERABILITY ASSESSMENT

4. Flooding from stormwater and run-off

Surface flooding occurs after prolonged rain or hail and the local storm water capacity (if it exists) is exceeded and/or there is runoff from surrounding sites.

Hard surfaces such as roads, driveways, carparks can make run off worse because compacted ground, even with grass on it, does not absorb as much water as sites which are natural and not compacted.

Stormwater systems and their capacity can vary even in suburban areas. Some areas are reliant on individual dwellings using soak pits or sumps. Other areas have old stormwater systems which may be struggling to cope with increased numbers of dwellings in new adjoining developments. Check with your local council about your site.

Circle the description that fits your site best.

4.1 The surrounding land

Lower Risk → Higher Risk				
Site higher than neighbouring land		Site same height as neighbouring land		Site is lower than neighbouring land

4.2 Roads and driveways

Lower Risk → Higher Risk				
Road and driveways are lower than the site		Road and driveways are same level as the site		Road and driveways are higher than the site and slope down to it

4.3 Storm water systems

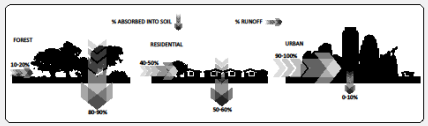
You may need to look at the original plans for you site's development. This information should be on the property file for your site, it is likely that it will NOT be on the LIM. So don't rely on the LIM. You may be able to get access to the site's property file on-line. Talk to the council.

Lower Risk → Higher Risk				
Stormwater network services all local sites and is less than a decade old		Stormwater network is old or services only some sites		Dwellings, buildings and sites use soak pits or sumps

QUICK VULNERABILITY ASSESSMENT

7. Vulnerability from Changing Land Use

What happens around a site impacts on it. A sloped site with undisturbed vegetation has less runoff than sites which are developed. If sites above or around your site are being built on or cleared, this may impact on surface water on your property.



It is in your interests to check it out. So check with council about the development of the site you want to purchase, and the land uses around your site including new developments and possible future developments.

Put a Cross if any these apply to your site or to surrounding site developments

7.1 Existing developments:

Some warning bells for existing developments on or near your site:

- ☐ The development required a resource consent – This indicates that the development was not a permitted use in the district plan.
- ☐ The development went to a Resource Management Act Hearing of some sort – This indicates local objections. Check out what they were.
- ☐ The developer was required to report on risks, do soil testing, get an engineering report, or other actions to get a building consent or RMA consent.
- ☐ The developer was required to mitigate risks or impacts.

7.2 Signs of new developments or changing land use:

You can check future developments that may affect the site by asking your council for:

- ☐ RMA consent applications that might affect the site
- ☐ Decisions by Council or the Environment Court for applications near the site.
- ☐ Surrounding forests recently cleared or about to be felled
- ☐ Subdivision for residential, commercial or industrial use

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