

## EARTHQUAKES - The Bad News and the Good News

We all have some connection to Earthquakes. After the ensuing deadly results of tsunami associated with the 2004 earthquake in Sumatra Indonesia we have again recently been reminded of their devastation by viewing the result of the magnitude 7.0 earthquake at Port au Prince Haiti on 12<sup>th</sup> January 2010.

They are a fact of life for All New Zealanders. It is reported by the Institute of Geological and Nuclear Sciences that New Zealand has between 10,000 and 15,000 earthquakes each year. Yes, on average that is 34 earthquakes per day; and they are not all small!

Gisborne is rocking and rolling with a magnitude 6.8 earthquake in 2007, 5.8 in 2008, with more quakes in 2009 and 2010.

Larger earthquakes have been experienced in the south island where a magnitude 7.6 earthquake occurred off the west coast of the south island in July 2009. This earthquake dissipated approximately 20 times the energy of the recent Haiti earthquake. So it is clear that we are in the midst of an Earthquake prone country.

Fortunately Hamilton's location has the added benefit of a relatively low 0.16 Hazard factor compared to Wellington's 0.40 (250% more likely of a significant earthquake). Hamilton is also some distance from known active fault lines but Wellington has them on their back door (Hutt Valley being the most obvious).

The bad news is that another Earthquake or two is most likely to occur in New Zealand before typing of this report is completed. But the good news is that the New Zealand Government's change to the Building Act in 2004 gave Territorial Authorities power to do something about potential Earthquake Prone buildings.

If you are the owner a commercial building, by now you should have had a seismic assessment of the building completed by a qualified structural engineer to determine whether the building you own is Earthquake Prone or not, and if it is what remedial work is required so it is no longer deemed to be Earthquake Prone.

Why has council's throughout New Zealand asked for an assessment of commercial buildings to be completed?

The Building Act 2004 now requires all Territorial Authorities in New Zealand to adopt a policy on earthquake-prone, dangerous and insanitary buildings. Councils have adopted policies that set about identifying and updating their registers of potentially problematic buildings within their individual territories – lack of seismic strength being one of those problems.

For all interested parties, the Hamilton City Council's adopted policy can be found on <http://hamilton.co.nz/file/fileid/965>.

What does Earthquake Prone mean?

The following is an excerpt from the Department of Building and Housing web site .....

*"The risk of earthquake-prone buildings can be measured by comparing the assessed performance of each building to the performance required of a new building."*

*"The technical definition of an earthquake-prone building is set out in the Building Act 2004 (section 122) and in the related regulations that define a moderate earthquake."*

Where .....

*"A moderate earthquake is legally defined as: in relation to a building, an earthquake that would generate shaking at the site of the building that is of the same duration as, but that is one-third as strong as, the earthquake shaking (determined by normal measures of acceleration, velocity and displacement) that would be used to design a new building at the site."*

What is the purpose of this legislation?

To identify and have Earthquake Prone buildings upgraded so there is less likelihood of building damage and associated injury and loss of life in an earthquake event. So that is Good News for all of us

We should applaud and encourage our council to complete the task they have initiated to make Hamilton a safer place.