

Nelson City Council Earthquake Prone Building Policy 2006

USER GUIDE

November 2009



Building strengthened 1995

Earthquake Prone Building Policy 2006

New Zealand has a relatively high earthquake risk – so it is important for safety reasons that buildings are built or upgraded to be safe in a ‘quake. This leaflet sets out the requirements in the Nelson city area for making earthquake-prone buildings safe.

The law

All councils in New Zealand are required by the Building Act 2004 to have a policy on earthquake prone, dangerous and insanitary buildings. Nelson City Council adopted its policy in May 2006 and it is overseen by the Council’s Building Unit. This brochure outlines the regulations.

The aim of the Building Act is to reduce the risks of earthquakes to people and to buildings. The Act defines an earthquake prone building and increases the level of structural performance from the Building Act of 1991.

The City Council’s earthquake prone buildings policy was adopted after public consultation. It follows procedures for the evaluation of buildings from the New Zealand Society for Earthquake Engineering’s Guidelines for ‘Assessment and Improvement of the Structural Performance of Buildings in Earthquakes’. The policy adopts a staged approach to reducing earthquake risk, starting with identifying buildings that may be earthquake prone, and informing owners of their obligations. It balances the need to reduce risks against economic and social constraints.

Buildings affected

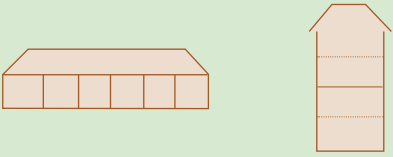
The policy applies to all buildings except:

- single story residential buildings and
- two (or more) story residential buildings that contain only one or two household units.

Buildings designed after 1976 are unlikely to be earthquake prone unless they have a critical structural weakness from a design deficiency or unauthorised alteration.

Example of Residential Buildings EXCLUDED from Policy


Initial evaluation Procedure (IEP) NOT required



Multiple units, single storey 2 units, Multiple Storeys

Example of Residential Buildings INCLUDED in Policy

Initial evaluation Procedure (IEP) MAY BE required



3 or more Units AND 2 or more Storeys

The Process

The council is reviewing the city's building stock to assess buildings that may be earthquake prone. If your building falls into this category you will need to engage a chartered professional engineer to complete an Initial Evaluation (IEP) as set out in the NZSEE Guidelines. Owners have 12 months to get their evaluation back to Council.

The flowchart on pages 4 - 5 shows what will happen.

Alteration

If you are applying for a building consent for an alteration, you'll need an Initial Evaluation from a chartered professional engineer. If this shows the building is potentially earthquake prone (potentially high risk), then you'll need a Detailed Assessment. Consent applications for buildings confirmed as earthquake prone must include an upgrade to at least two thirds of the current new building standard (section 112 of the Building Act).

Change of Use

If your building consent application is for a change of use, you will need a Detailed Assessment, and the building must be made to comply as nearly as is reasonably practicable with current new building standards (section 115 of the Building Act). This applies to all buildings regardless of their earthquake status. The sequence is shown in the consent application flowchart on page 5.

Priorities and Timeframes

We intend to have priority 1 and 2 buildings identified by December 2010 and the remainder by December 2012.

Priority	Type of building	Example	Timeframe for risk reduction
1	Special post-disaster functions	Hospital, civil defence	15 years
2	Crowds or high value contents	School, stadium	20 years
3	Heritage classification A or B	Historically significant buildings	25 years
4	Normal or low hazard	Most buildings	30 years

We encourage all owners to consider their options early, and to discuss possible strategies with the Council.

Earthquake Prone Building Policy

Overview of Earthquake Risk Evaluation Process

Territorial Authority Function

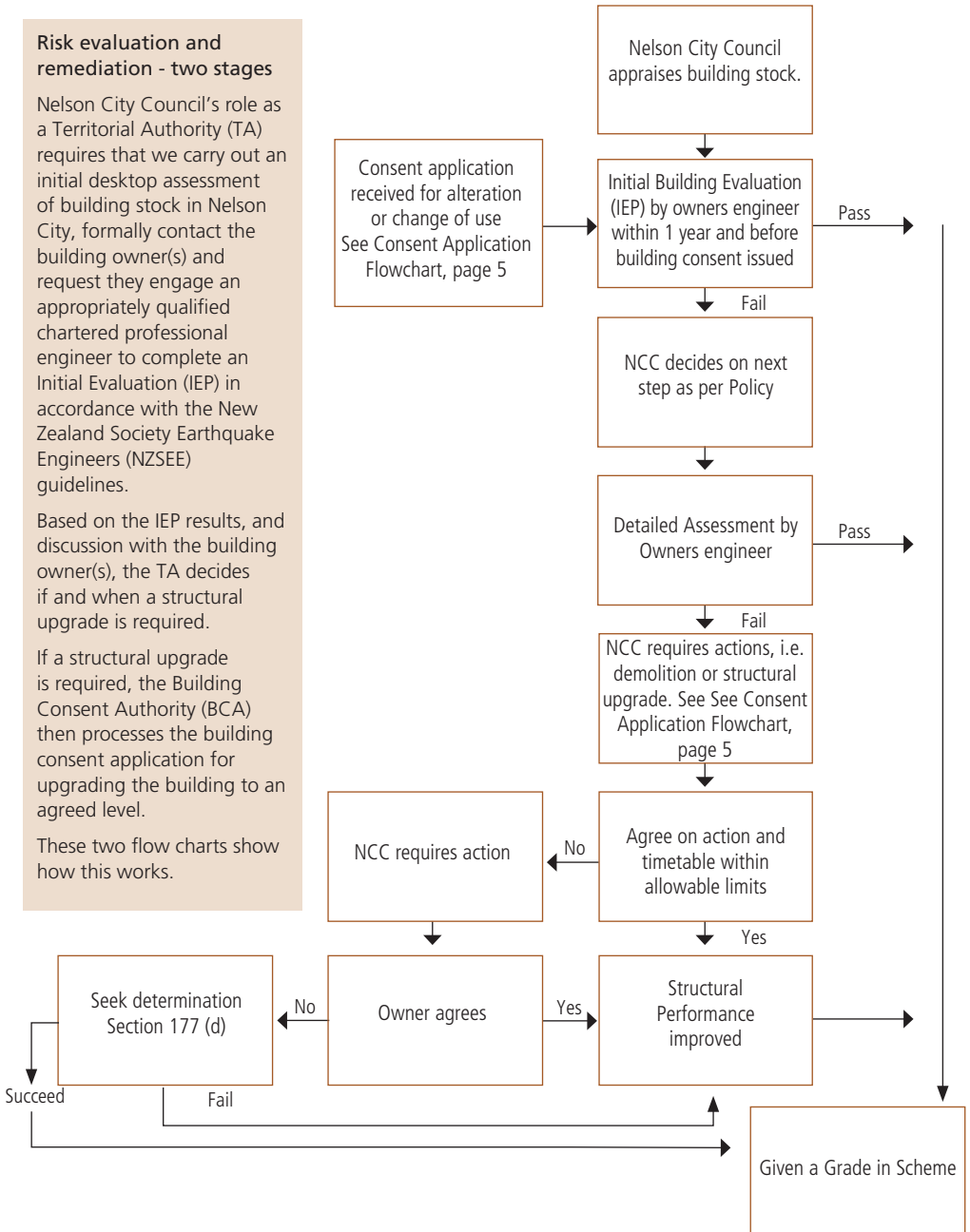
Risk evaluation and remediation - two stages

Nelson City Council's role as a Territorial Authority (TA) requires that we carry out an initial desktop assessment of building stock in Nelson City, formally contact the building owner(s) and request they engage an appropriately qualified chartered professional engineer to complete an Initial Evaluation (IEP) in accordance with the New Zealand Society Earthquake Engineers (NZSEE) guidelines.

Based on the IEP results, and discussion with the building owner(s), the TA decides if and when a structural upgrade is required.

If a structural upgrade is required, the Building Consent Authority (BCA) then processes the building consent application for upgrading the building to an agreed level.

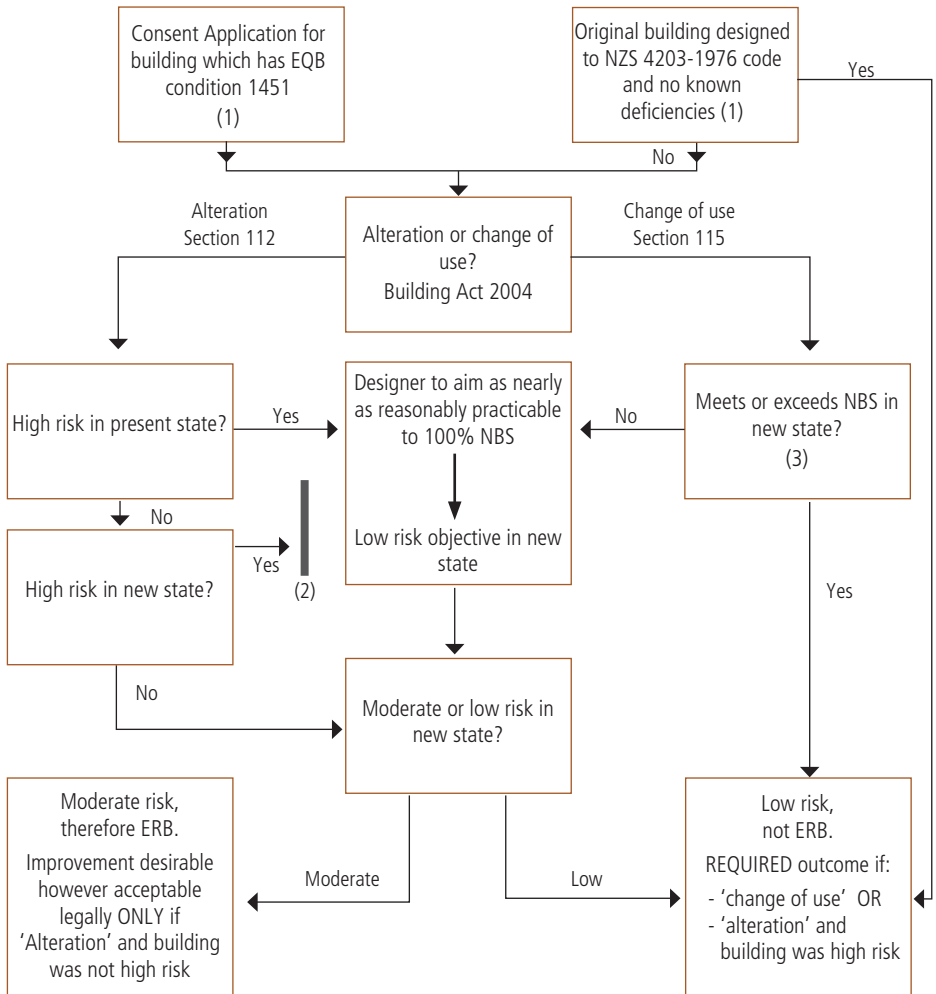
These two flow charts show how this works.



Earthquake Prone Building Policy

Building Consent Application for EQB

Building Consent Authority Function



Definitions

EQB = Building subject to earthquake review

NBS = New Building Standard

ERB = Earthquake risk building, defined as moderate risk, between 34% and 66% NBS.

EPB = Earthquake prone building, defined as high risk, less than 33% NBS.

Notes

1. The receipt of consent application triggers NCC to apply Sections 112 and 115 of Building Act.
2. Cannot be made worse, therefore not possible.
3. Note that a new use may require a higher performance standard.

Damage to buildings

People are the first concern of these regulations, with damage to the building and contents a secondary consideration. Even buildings that are assessed as acceptable, or are strengthened, could still be damaged beyond repair by a significant earthquake. You should consider the insurance and business aspects of any upgrade in your long term plans, especially when you're looking at major alterations or refurbishments.

Making the grade

NZSEE assessments will give a seismic grade to buildings, rating their expected earthquake performance.

Definitions

Earthquake risk building: resistance to earthquake attack is less than two thirds the standard of an equivalent new building (< 67%NBS). These are moderate risk buildings estimated to pose 5 to 10 times the risk of buildings complying with current building standards. There is no need to upgrade unless the owner is applying for a change of use.

Earthquake prone building: resistance to earthquake is less than one third of the standard of an equivalent new building (<= 33%NBS). These are high risk buildings estimated to pose 20 times the risk of buildings complying with current building standards, and must be upgraded.

%NBS	0%	20%	33%	67%	80%	100%
Seismic Grade	E	D	C	B	A	A+
Relative Risk	High		Moderate		Low	
Designation as per BA2004	Earthquake Prone Building (%NBS <=33)		Earthquake Risk Building (%NBS <67)		Low Potential Earthquake Risk (%NBS >=67)	

Abbreviations used:

%NBS: Percentage of standard required for new building at the time of assessment.

NZSEE Guidelines: New Zealand Society for Earthquake Engineering 'Assessment and Improvement of the Structural Performance of Buildings in Earthquakes', June 2006.

IEP: Initial Assessment Procedure as defined in the NZSEE Guidelines.

Frequently asked questions

Q: Does this policy apply to my house?

A: Probably not, residential buildings are not included unless they are two or more storeys high, AND have three or more household units. (See the diagram on page 2)

Q: Can I buy or sell an earthquake prone building?

A: Yes, the new owner will be responsible for seismic upgrades. Buyers need to do their own investigations and seek expert advice.

Q: If my building has a heritage classification A or B will it need to be upgraded?

A: The policy applies just the same as it does to other buildings. We will discuss the options with owners and NZ Historic Places Trust, and make a special effort to meet heritage objectives.

Q: I am renovating my building. Do I have to obtain an IEP and strengthen it at this time?

A: Not necessarily - only if a building consent is required for the renovation of a building first constructed prior to 1980. Requirements will be decided case by case. We will consider the potential risk of the building's age, use, and value of alterations. Proposed alterations exceeding 30% of the building value will always require an IEP.

Q: I'm changing the use of my building. Does the policy affect me?

A: The Building Act 2004 provisions on 'change of use' are separate to those relating to earthquake prone buildings. A change of use requires any building to be upgraded to comply "as nearly as is reasonably practicable" with the current Building Code, regardless of its earthquake status.

Q: My building was strengthened 10 years ago as required by the Building Act 1991. Is it affected by the current policy?

A: It probably is. The Building Act 1991 addressed buildings that posed the highest seismic risk, but the 2004 Act includes many more buildings and has increased the requirements. The NZSEE Guidelines benchmark a building's strength against its %NBS. Further strengthening or remaining life will depend partly on the level of strengthening already carried out.

Q: Will the policy affect insurance?

A: Yes. Insurance policies usually require disclosure of formal notices issued regarding a building's earthquake prone status. You should contact your insurer.

Contacts:

For further information or to get a copy of the full policy:

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Contract Engineer

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(search phrase = earthquake prone)

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