

# *Earthquake-Prone Buildings*

*Draft*

June 2020

## Background

This document replaces Whangarei District Council's "Dangerous, Insanitary and Earthquake-Prone Buildings Policy" dated December 2011.

The Council is no longer required to have a policy for earthquake-prone buildings as amendments to the Act including the introduction of Subpart 6A now deals with earthquake prone buildings (EQBs). A new policy has been written for Dangerous, Affected and Insanitary Buildings.

## Purpose

The purpose of this document is to set out Whangarei District Council's obligations in terms of EQBs and the legislative requirements contained in Section 6A of the Building Act 2004 (the Act).

## Introduction

New Zealand is an earthquake-prone country. Following the devastating earthquakes in Christchurch in 2010 and 2011 and Kaikōra in 2016, the Act was reviewed, and a new section added (Part 6A). The changes saw the introduction of a national system for the identification and management of EPBs.

The national system ensures EPBs are managed consistently and strike a balance between:

- protecting people from harm in an earthquake
- the costs of strengthening or removing EPBs; and
- the impact on New Zealand's built heritage

The Act defines key terms and provides the framework for managing risk and a system for the identification of EPBs based on risk.

<i>System for managing earthquake prone buildings</i>		
Building Act 2004	➔	Sets framework for managing risk
Regulations	➔	Defines key terms, criteria and ratings
Methodology	➔	How to identify EPBs
Engineering assessment guidelines	➔	Technical methods for assessment
EPB Register	➔	National public register of EP buildings

**Note:** any reference to an EPB in this document, means all or part of a building

## Legislative Requirements

The Building (Earthquake-prone Buildings) Amendment Act 2016 was introduced on 13 May 2018 and saw the introduction of Subpart 6A to the Building Act 2004. Subpart 6A<sup>1</sup> sets out the requirements for EPBs; these requirements are determined based on seismic risk.

The Building (Specified Systems, Change the Use and Earthquake-Prone Buildings) Regulations 2005 define moderate earthquake and ultimate capacity and provide categories of earthquake ratings.

A building or part of a building is defined as being earthquake-prone (EP) if its *ultimate capacity* will be exceeded in a *moderate* earthquake, and if it were to collapse, would do so in a way that is likely to cause injury or death to persons in or near the building or on any other property, or damage to any other property.

*Ultimate capacity* means the probable capacity of a building to withstand earthquake actions and maintain gravity load support on the building as a whole and its individual elements or parts.

Earthquake rating means the degree to which the building or part of the building meets the requirements of the Building Code<sup>2</sup>.

There are *two ratings* prescribed in the Regulations:

- 0% to less than 20%; and
- 20% to less than 34%

A building is deemed earthquake-prone if its rating is below 34% of the new building standard (NBS) of the expected seismic performance of an existing building relative to the minimum that would apply under the Building Code to a new building on the same site with respect to life safety.

### Buildings covered by the Act

The system focuses on the most vulnerable buildings, in terms of public safety. The EPB provisions apply to non-residential buildings and some larger residential buildings that are at least two story's and either:

- contain three or more household units; or
- are used as a hostel, boarding house, or other specialised accommodation

### Buildings excluded by the Act

The Act does not apply to:

- farm buildings
- stand-alone retaining walls
- fences
- statues and other monuments that cannot be entered
- wharves
- bridges
- tunnels

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<sup>1</sup> sections 133AA – 133AY

<sup>2</sup> Schedule 1 of the Building Regulations 1992

- storage tanks

### Priority buildings (s.133AE)

The Act defines certain buildings as priority buildings; however, because Whangarei is in a low seismic zone, this section of the Act does not apply.

### Timeframes

The Territorial Authority (TA) must identify all EPB's by 2032 (s.133 AG.4 (a)); owners<sup>3</sup> have 35 years from the date of their first notice to remediate their EPB's.

Seismic risk area	WDC must identify potentially EPB by:		Owners of EPB must carry out seismic work within (time from issue of EPB notice):	
	Priority	Other	Priority	Other
Low	N/A	1 July 2032	N/A	35 years

The TA must report progress towards identifying EPBs to MBIE every three years for a fifteen-year period ceasing in 2032.

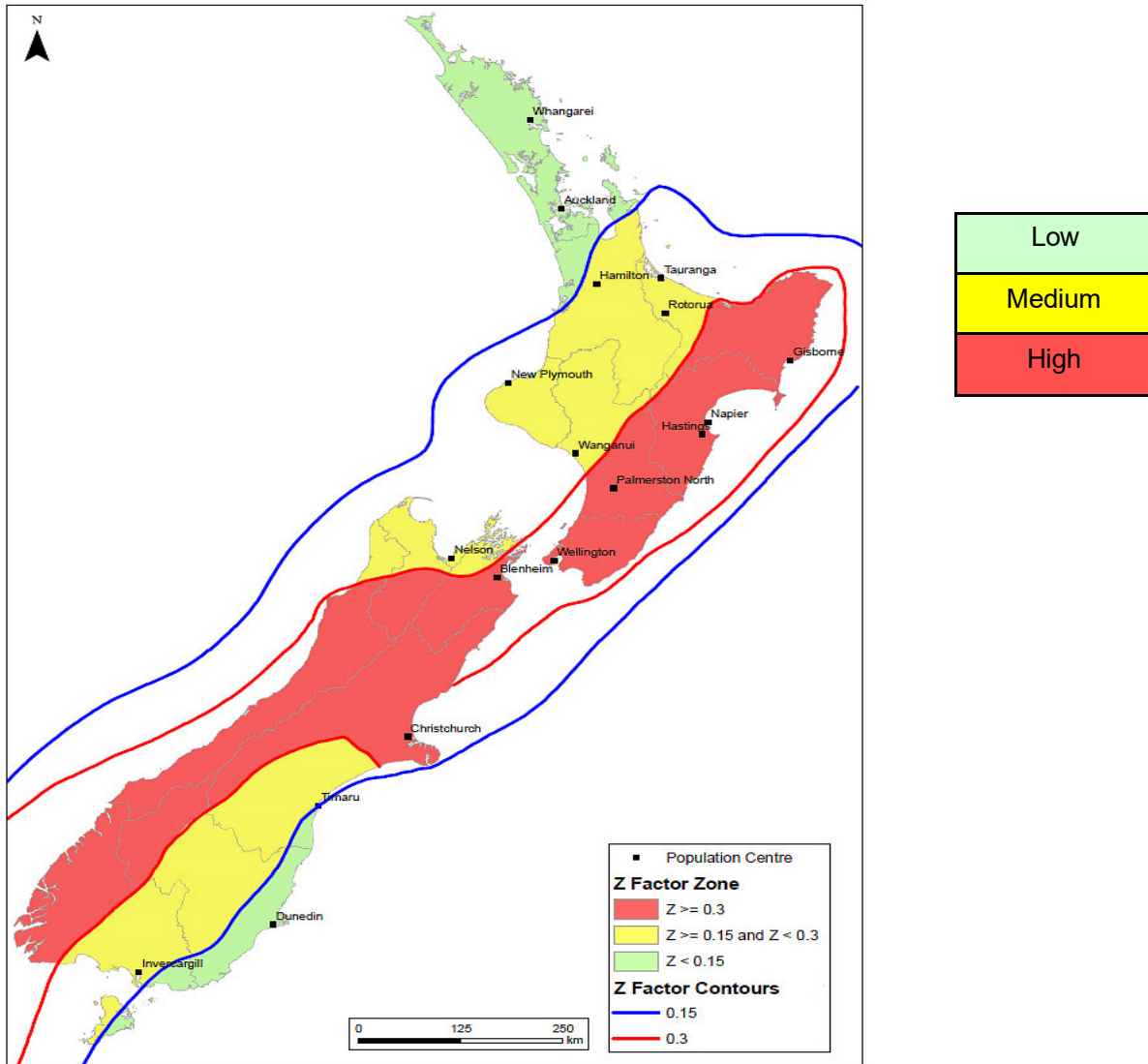
The first report is due in June 2020 and must cover the period from 1 July 2017 to 30 June 2020. Thereafter reports are due in 2023; 2026 and 2029 with the final report due in 2032.

<sup>3</sup> Owner obligations are discussed in detail throughout this document

## Seismic Risk

New Zealand is an earthquake-prone (EP) country. To help us manage the risk to public safety, NZ is categorized into three seismic zones (low, medium and high).

Each zone has a hazard factor assigned to it, which is used in the design of new buildings.



Whangarei District has a seismic risk factor<sup>4</sup> of .10 therefore falls into a Low Seismic Risk zone.

Seismic Risk	Z Factor	Location
Low	Z < 0.15	Northland <sup>5</sup>

These seismic risk factors are used to set time frames for identifying and remediating EPBs and reporting on progress to MBIE.

<sup>4</sup> Seismic risk factors are sourced from NZS1170.5:2004 Structural Design Actions Part 5: Earthquake actions NZ

<sup>5</sup> Whangarei, Far North and Kaipara District Councils

## North Island

#	Location	Z
1	Kaitaia	0.10
2	Paihia/Russell	0.10
3	Kaikohe	0.10
4	Whangarei	0.10

### **TA must identify EPBs (s.133AG)**

A TA must apply the EPB methodology<sup>6</sup> to all buildings in its district to identify whether buildings or parts of buildings are EP. This methodology must be put in place from 1 July 2017. Regardless of the methodology, if the TA has reason to suspect that a building or part of a building is EP, then it must identify it as being potentially EP.

Buildings that are potentially EP fall within certain category profiles; these profile categories are: -

Category	Low seismic risk
<b>A</b>	Unreinforced masonry buildings
<b>B</b>	Buildings constructed prior to 1976 that are either three or more story's or 12 metres or greater in height above the lowest ground level (other than unreinforced masonry buildings in Category A)
<b>C</b>	Buildings constructed prior to 1935 that are one or two story's (other than unreinforced masonry buildings in Category A)

### **Exclusions (s.133AA)**

The following buildings are excluded:

- a building that is constructed primarily of timber framing without other construction materials providing lateral support
- a building strengthened to at least 34%NBS (or the equivalent of this)
- a building that a TA has previously notified the owner in writing is not EP prior to commencement
- a building that the TA has found to be EP and for which it has issued a notice under s.124 of the Act prior to commencement (and is therefore subject to Schedule 1AA of the Act)
- a building for which the TA has a previous assessment that has a %NBS reported for the building greater than 34%NBS and that meets the criteria set out in section 3.3 of this methodology
- buildings for which a TA obtains information or a special study that shows a particular subset of buildings is not EP due to particular circumstances or special local characteristics, where there is a robust technical basis for this information or study

<sup>6</sup> EPB Methodology – The methodology to identify EPBs published in July 2017 by MBIE

## **TA must request engineering assessment (s.133AH)**

If a TA identifies a building or part of a building as being potentially EP, it must ask the owner in writing to provide an engineering assessment and explain what will happen if the building is deemed EP.

The request must:

- be dated and identify all or parts of the building that are potentially EP
- explain the TAs reasons for deeming it EP
- set out the owner's obligation
  - the date the assessment is due
  - the consequences of failing to undertake the assessment within the required timeframe
  - ability to apply for an extension of time

## **Owner's obligations following a request for an engineering assessment (s.133AI- AJ)**

If the TA has requested the owner provide an engineering assessment, they must do so by the date specified in the notice issued under s.133AH.

The owner may either:

- provide an assessment that complies with the EPB methodology
- provide evidence of a factual error made by the TA when determining the building is EP; or
- notify the TA that they do not intend to provide an assessment

Note: as it may not be cost-effective to remediate a building, the owner may choose to do nothing, although they are still obliged to advise the TA of this decision. In this circumstance, the building must be demolished within the 35-year period.

If the TA has incorrectly identified the building as being EP, it must cancel the request for an engineering assessment and provide written notice of this decision to the owner.

If the owner fails to provide an assessment or has advised they will not provide an assessment, the TA must proceed as if it had determined the building to be EP. In this instance, the TA may obtain an engineering report and recover the costs from the owner.

The TA must then determine the earthquake rating and issue a notice for the building in the prescribed form.

If the owner is unable to provide the engineering assessment in time, they may apply for an extension of time; however, must do so within 2 months of the due date.

The TA may grant or refuse an extension of time. Extensions of time are for a maximum period of 12 months and may only be granted once. No further extensions of time are permitted. The TA must notify the owner of their decision in writing.

## Determining whether a building is EP (s.133AK)

Upon receiving an engineering assessment, the TA must determine whether the building is EP and its rating.

Building is EP	Actions
No	N/A
Yes	Determine rating Notify owner in writing building is EP and advise rating Issue EPB notice for the building Update and record information in EPB register

If the TA does not receive an engineering assessment by the due date, it must proceed as if the building were EP and take the actions above but does not have to determine the rating.

## Issuing EPB notices for EPB's (s.133AL)

The TA must promptly issue an EPB notice, which must be in the prescribed form and dated. Furthermore, it must: -

- identify the part or all of the building that is EP
- specify the rating
- require the owner to undertake seismic work to remove the hazard
- state the deadline for doing the seismic work
- state how to apply for an exemption under s.133AN
- state how to apply for an extension of time under s.133AO (heritage buildings)

If the notice has been issued because the owner failed to provide an engineering assessment, the notice must state that the TA has determined it is EP and the rating it has applied to the building.

A copy of the notice must also be issued to the owner, occupier and any other person who has an interest in the land; this includes:

- every person who has an interest in the land on which the building is situated under a mortgage or other encumbrance registered under the Land Transfer Act 2017
- every person claiming an interest in the land that is protected by a caveat lodged and in force under section 138 of the Land Transfer Act 2017; and
- every statutory authority that has exercised a statutory power to classify or register, for any purpose, the building or the land on which the building is situated; and
- Heritage New Zealand Pouhere Taonga, if the building is a heritage building

**Note:** If a notice is not given to any or all of the above parties it does not make it invalid.

## Deadline for completing seismic work (s.133AM)

The owner must complete seismic work on the building within 35 years of the date of the first notice regardless of whether it was issued under this section of the Act or s.124 (c) (i) *since revoked*.

**Note:** seismic work may include demolition of the building



## Owner may apply for an exemption (s.133AN)

An owner of a building subject to an EPB notice may apply to a TA for an exemption from the requirement to carry out seismic work. The application must be in writing and be accompanied by a fee imposed by the TA.

The TA may grant an exemption from the requirement to complete seismic work on a building if it has: -

- the prescribed characteristics;<sup>7</sup>
- either 'nil to low' or 'low to moderate' intensity of occupation and passage (life safety consequences)
- consequences or likelihood of damage to other properties in the event of the building collapsing

An EPB must have all the required characteristics and features listed above, to be eligible for an exemption; the focus is on buildings with a low consequence of failure.

Prescribed Characteristics	Assessment
Limited current use	Not many people use or are near this building, or if they are, this is infrequent or not for long
Limited expected use	This limited use is also true for the foreseeable future
Limited harm	Very few people use or are near the building or any nearby buildings (now and in the foreseeable future); or How the building is expected to collapse means very few people inside or nearby are likely to be hurt
Limited damage	The building is not near other buildings; or Its collapse is only likely to cause minor damage to other property
Does not affect strategic transport routes	N/A in low seismic zone
Not required in an emergency	Building is not likely to be needed in an emergency

Exemptions can only be granted to a building already deemed EP. The TA should only grant an exemption if there is a low consequence associated with the building's failure in terms of life safety and property damage.

The types of building expected to be eligible for an exemption are likely to be those located well away from other buildings or passers-by, e.g. small rural community halls or churches.

If the TA grants an exemption it must issue an EPB exemption notice identifying the building (or the part thereof) that is exempt; noting that the owner does not have to carry out seismic work and setting out the TAs reasons for granting the exemption.

The TA may review and / or revoke the exemption at any time, if the building no longer has the prescribed characteristics. An exemption stays in force until the TA revokes it.

## Extensions of time for Heritage buildings (s.133AO)

If the building is a Category 1 historic place or national historic landmark, the owner may apply to the TA for an extension of time to complete the seismic work.

The application must be in writing and be accompanied by a fee imposed by the TA.

<sup>7</sup> Regulation 10 and Schedule 4 of the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations set out the required building characteristics for an exemption i.e. age, construction type, use, level of occupancy, location in relation to other buildings or building types, and any other characteristics

The TA may grant an extension of time (up to 10 years) to complete the seismic work; however, the owner must take all reasonably practicable steps to manage or reduce the risks associated with the building being EP and comply with any conditions the TA deems necessary for managing the risks.

If the owner fails to comply with the conditions the TA may revoke the extension. The TA must re-issue the notice after granting or revoking an extension and update the EPB register.

### ***EPB notices and EPB exemption notices (s.133AP)***

Once a notice has been issued (or re-issued), it must be attached, removed or replaced (as applicable) as soon as practicable in a prominent place on the building.

If a notice becomes illegible the owner must advise the TA who will issue a replacement notice.

Note the TA can require the owner to attach, remove or replace notices.

### ***Assessing information relating to EPBs (s.133AQ)***

As soon as practicable after receiving an engineering assessment, the TA must determine in accordance with the EPB methodology: -

- whether the building is EP; and
- if it is EP, it's rating

The TA must then notify the owner of its decision in writing, confirming the rating and issue an EPB notice. If the building is already subject to an EPB, and the rating has changed, the TA must re-issue the notice and advise the owner the rating has changed.

### ***Imposing safety requirements (s.133AR)***

A TA may put up a hoarding or fence to prevent people from approaching the building and erect a notice warning people not to approach the building or restricting entry to persons or groups.

- If the TA has put up a hoarding or fence, no person may use or occupy the building or permit anyone else to use or occupy the building, other than in accordance with the terms of notice.

The notice must be in writing and attached to the building in question. The notice may only be issued for a maximum period of 30 days. The notice can be re-issued only once, again for a maximum period of 30 days.

A copy of the notice must also be issued to the owner, occupier and any other person who has an interest in the land; this includes:

- every person who has an interest in the land on which the building is situated under a mortgage or other encumbrance registered under the Land Transfer Act 2017
- every person claiming an interest in the land that is protected by a caveat lodged and in force under section 138 of the Land Transfer Act 2017; and
- every statutory authority that has exercised a statutory power to classify or register, for any purpose, the building or the land on which the building is situated; and
- Heritage New Zealand Pouhere Taonga, if the building is a heritage building

Note: If a notice is not given to any or all of the above parties it does not make it invalid.

### ***TA may carry out seismic work (s.133AS)***

If seismic work has not been completed on an EPB (by the deadline specified on the EPB notice), the TA may apply to the District Court to carry out the work (note that seismic work may include demolition).

Before applying to the Court, the TA must give the owner 10 days written notice of their intention to do so.

The TA may recover their costs from the owner and place a charge on the land until such time as it receives these costs.

### Alterations to buildings subject to an EPB notice (s.133AT)

A Building Consent Authority (BCA) must not grant a building consent on a building that has an EPB notice unless it is satisfied that the building will continue to meet the provisions of the Building Code for means of escape and access and facilities.

Furthermore, that after the alteration, the building will continue to comply with the provisions of the code as it did before the work began or if it did not comply before the work began, continue to comply at least to the same extent as it did.

Despite this a TA may allow the alteration of the building without the building complying with the Code provided that

- the alteration includes the necessary seismic work; and
- if the building were required to comply with the specified provisions, it would be unduly onerous for the owner in the circumstances; and
- the permitted non-compliance with the specified provisions is no more than is reasonably necessary in the light of the objective of ensuring that the building is no longer earthquake prone; and
- after the alteration, the building will continue to comply with the specified provisions, and other provisions of the building code, to at least the same extent as it complied with those provisions immediately before the building work began

If substantive alterations<sup>8</sup> are carried out, the alterations must include the seismic work that is necessary to achieve compliance. Substantial alterations means

$$(x + y) > (z \div 4)$$

&

$$(x + y) > \$150,000$$

<b>X</b>	Estimated value of the building work excluding seismic work
<b>Y</b>	Estimated value of the seismic work
<b>Z</b>	The total building value of the building

### Process

Council's approach for the transition to the new system and methodology is:

For buildings already assessed and **not EP**:

- No action required
- The Regulations exclude these buildings from being re-assessed under new methodology

For buildings already assessed and **EP**:

- Write to building owners advising of change in legislation and giving them the options to:
  - Accept the existing earthquake-prone seismic assessment; or

<sup>8</sup> Regulation 11 Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005

- Engage a suitably qualified structural engineer (at their cost) to undertake a new engineering assessment using the new methodology (EPB Methodology) within 12 months.

If an owner elects to accept the existing EP rating Council will:

- issue an EPB Notice which is required to be displayed in a prominent place in the building, and
- Add the building details to the national register of earthquake-prone buildings

All buildings that have been identified as being earthquake prone must be entered onto the national register (EPB Register)

### **Procedure once EP status confirmed**

The procedure for EPBs is:

- Once the EP status of a building has been confirmed, an earthquake-prone building notice will be issued
- The issuance of the notice triggers the requirement for the building's details to be added to the national EPB register.
- The timeframe for strengthening EPBs in Whangarei (a low seismic zone) is 35 years from the date the EPB notice is issued.
- However, there are additional triggers requiring strengthening earlier than the 35-year timeframe – when the building is subject to a change of use or a substantial alteration (i.e. where the value of alterations is >25% of the rateable value of the building).

Timeframe extensions of 10 years for specific heritage buildings and exemptions from strengthening are also possible in accordance with the guidance criteria provided by Ministry of Business, Innovation and Employment (MBIE).

The EP status of a building will be publicly available on the Land Information Memorandum (LIM) as long as the building remains EP.

### **Identification of EPB**

The TA identifies EPBs in its district by doing a desktop review of its records, as follows: -

- Start in the CBD first then alphabetically, street by street to identify potential buildings
- Look for the design date of the building (based on existing records e.g. building permits or consents)
- Search using Maps, GIS or Google Earth

Visual identification of buildings:

- Height (lowest ground level surrounding the building to the highest point on the roof structure)
- Use of building
- Construction type