Building Consent Practice Note

Seismic Upgrades

Purpose:

The purpose of this document is to provide guidance information to building owners and designers who are considering seismic upgrades to existing buildings.

NB: The proposed changes to the EPB framework will cover high risk 3+ storey buildings of heavy construction (generally concrete) and unreinforced masonry buildings only. Buildings in low seismic risk zones (Auckland, Northland and Chatham Islands) will be removed from the EPB framework. The proposed changes will not come into force until a new law is in place. The implementation of the new legislation is anticipated in mid-2027 (tbc). **Until then, the current framework outline below remains in force.**

Legislative requirements:

Building Act 2004

- s.112 Alterations to an existing building that is not earthquake prone
- s.133AT Alterations to an existing building that is earthquake prone issued with an earthquake-prone building notice (EPB notice)
- s.115 Code compliance requirements: change of use
- s.121 Dangerous buildings
- s.124 Powers of territorial authorities in respect of dangerous or insanitary buildings
- s.133AR, s.133AS Powers of territorial authorities in respect of earthquake-prone buildings

Seismic upgrading or alterations to an existing building:

One of the aims of the Building Act 2004 is to reduce the risks that earthquakes pose to buildings and people in or around them. Territorial authorities (TAs) are required to identify potential earthquake-prone buildings (EPBs) and use appropriate regulatory measures to either ensure these buildings are seismically upgraded or the risk is otherwise reduced. Where earthquake strengthening of buildings does occur it can provide immediate and long-term benefits, which accrue to building owners, occupiers, insurers, and the wider society.

Benefits include:

- reduced death, injury and property damage costs resulting from earthquakes
- reduced social costs and impacts associated with earthquakes
- improved post-earthquake functioning of towns and cities and reduced economic losses

Under the current EPB legislation, once a building is determined as earthquake prone, the TA must issue an EPB notice under s.133AL. As a low seismicity region, the owners of EPBs in Auckland have 35 years to strengthen their buildings from the date of issue of the EPB notice. Additionally, owners of certain heritage buildings subject to an EPB notice may apply for additional 10 years of extension of time to complete seismic work (s.133AO).

Building consent applicants need to ensure their building consent application includes all the required information to demonstrate:

- that compliance with other Building Code clauses is no less than what it was prior to the alteration
- compliance" as nearly as is reasonably practicable" with the Building Code for fire and accessibility (if applicable), including evidence of weighing up the sacrifices and benefits of achieving full compliance. This evidence is best provided in a thorough report
- that in the case of a **substantial alteration** to an earthquake-prone building that is subject to an EPB notice, the alteration includes the necessary seismic work, so the building is no longer earthquake
- that the proposed alteration (i.e., new building work) complies with the Building Code.

Building design professionals (including designers, architects, engineers or other professionals):

- may advise building consent applicants, or act as the applicant on behalf of clients

- need to consider the alteration requirements when preparing the building consent application documentation or advising on design.
- in most cases, structural seismic upgrade building works will require a building consent. Supporting producer statements (PS1/PS2) should accompany the building consent documentation. On completion of seismic strengthening works, the Chartered Professional Engineer shall issue a completion certificate (PS4) against the consent number(s) and state the achieved seismic rating (NBS rating) for the whole building, prior to issue of the code compliance certificate (CCC). There after the seismic redcord of the building can be amended to reflect the current seismic rating.

Definitions:

Substantial alteration – A substantial alteration to an earthquake prone building or part thereof is defined as work that:

1. Requires a building consent; and
2. together with other building work consented in the past two years (excluding any seismic work), has an estimated value greater than 25% of the building's rateable value (Capital Value minus Land Value) and is > $150,000.

Section 115 (change of use):

While buildings that are rated at less than 34% of the new building standard (NBS) are a key focus of the Act, any building that has a seismic performance capacity less than the minimum modern requirements may still be required to upgrade that performance under s.115 (Change of Use). In order to comply with s.115, buildings with greater than the minimum seismic capacity should still maintain at least the same seismic performance capacity and compliance with other provisions of the Building Code after the change of use has taken place.

Dangerous buildings:

In any case where the building is substantially lacking in means of escape from fire, it is very likely that it will not comply as nearly as reasonably practicable with the Building Code and may be deemed a dangerous building. Where a building is deemed dangerous, Council has powers under s.124 and s.125, to issue an owner with a dangerous building notice. Council may also seek advice from the New Zealand Fire Service as to whether they deem a building to be dangerous.

Refer to s.121 of the Building Act 2004 for a definition of the term dangerous building.

Section 112 and Section 133AT assessments:

Under the Building Act 2004, s.112 sets out the requirements for altering an existing building that is not earthquake prone whereas s.133AT sets out the requirements for altering an existing building that is earthquake prone and issued with an earthquake-prone building notice (EPB notice)

A building undergoing an alteration may be granted a building consent by demonstrating:

- that the proposed alterations (i.e., The new building work) will comply fully with applicable clauses of the Building Code, and
- that the building as a whole will continue to comply with all other relevant Building Code clauses (e.g., structure) to at least the same extent as before the alteration,
- that the building as a whole will comply" as nearly as is reasonably practicable" (ANARP) with applicable Building Code clauses for fire and accessibility after the alteration takes place, and
- if the building is earthquake prone and the alteration is a **substantial alteration**, that the proposed alteration includes the necessary seismic work so that the building is no longer earthquake prone.

In cases when a building consent for alterations (where building is subject to an EPB notice) incorporating a seismic upgrade has been applied for, Council can use the discretion afforded by s.133AT (3) to allow the proposed seismic upgrade without the building complying with the specified provisions of s.133AT(2)(a) if the TA is satisfied that:

1. the alteration includes the necessary seismic work: and
2. if the building were required to comply with the specified provisions, it would be unduly onerous

for the owner in the circumstances; and

3. 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 or part is no longer earthquake prone; and
4. 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 strengthening works began.

Note: Where the EPB status is still only provisional, or where a building owner wishes to voluntarily increase the seismic rating of a building that is 'not earthquake prone', the specified provisions above still apply, but under s.112(2) instead.

Checking if seismic upgrade is required for a building without an EPB notice:

Although most buildings that fit within the profiling criteria set by MBIE that would require a seismic assessment have already had one completed and placed on the property file, there are going to be cases where an assessment is still required. If such an assessment determines that the building is earthquake-prone, an EPB notice will be issued, and seismic upgrading will be required in due course.

There may be situations where a building owner is applying for and undertaking alterations to a building fitting into one of MBIE's profiling categories, but the building has not yet been assessed or issued with an EPB notice. The owner may wish to proactively complete investigations, to avoid receiving an EPB notice and having to undertake further strengthening works at a later stage. It is recommended that applicants check with their processing officer if a profiling category does apply, even if there is no seismic assessment on file or EPB notice issued.

Particular attention should be paid to multi-unit residential apartments, as these are more likely to have not been assessed prior to the change in legislation in 2017 and the cessation of Auckland Council's active seismic assessment programme. For the purposes of earthquake-prone building legislation these are defined as those of pre-1976 construction, comprising of three or more storeys and containing 3 or more household units, or unreinforced masonry construction and 2 or more storeys and containing 3 or more household units.

A building consent application for alterations/additions will be assessed against s.112 if the building has been determined as 'not earthquake prone'. Section 133AT will apply if the building is formally identified as earthquake prone and subject to EPB notice and the proposed alterations qualify as 'substantial alteration'

References:

- The Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005
- EPB methodology - The methodology to identify earthquake-prone buildings
- Information sheet - Earthquake-prone buildings: Substantial alterations