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Ms Romilly Madew
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Dear Romilly

The Association of Australian Certifiers (AAC) is the peak body representing registered certifiers in NSW, both in private practice and in local government.

The AAC membership has requested guidance from Engineers Australia (EA) relating to how the Importance levels of buildings and structures stipulated in Part B of the Building Code of Australia (BCA) are intended to be interpreted.

Our members would particularly like to understand Engineers Australia's formal view of how residential, hotel and office buildings in excess of 15 storeys are to be classified under the BCA, as it applies in Australia.

We are aware that there appears to be a significant proportion of the EA membership who are of the view that these should be IL2. We would be keen to receive a copy of any guidance documents that EA offers to members, so that we can seek to align the message provided to our members.

We are mindful that the Importance Levels are stipulated in Section B of the BCA which applies to structural design. The relevant excerpt from the BCA is as follows:

BCA 2022

Table B1D3a: Importance Levels of buildings and structures

Importance level	Building Types
1	Buildings or structures presenting a low degree of hazard to life and *other property* in the case of failure.
2	Buildings or structures not included in Importance Level 1, 3 and 4.
3	Buildings or structures that are designed to contain a large number of people.
4	Buildings or structures that are essential to post-disaster recovery or associated with hazardous facilities.

It is our view that the above categories are vague.

The Guide to the BCA (2019) provides additional elaboration. Importantly it identifies low rise residential as being IL2. However, it is silent on high rise construction of any type, other than to mention occupancies of over 5,000.

The BCA also references AS1170.0 which provides further guidance which is differentiated for Australian and New Zealand buildings. However, the BCA only references Amendments 1, 3 and 4.

We note that the most detailed guidance relating to this issue is contained in Section 3 of AS1170.0. This quite clearly identifies that residential, hotel and office buildings over 15 storeys should be classified IL3. However, we note that this section only applies to New Zealand Buildings.

Any clarification you can provide is most welcome, with particular regard to high rise office, hotel and commercial buildings.

Yours sincerely

Jill Brookfield
Chief Executive Officer

Appendix

Further information and excerpts are contained below:

Guide to the BCA

A generic description of building types has been provided to which Importance Levels have been assigned. The "Importance Level" concept is applicable to building structural safety only. More specific examples are provided below. The examples are not exhaustive.

Importance Level 1:

- Farm buildings and farm sheds.
- Isolated minor storage facilities.
- Minor temporary facilities.

Importance Level 2:

- Low rise residential construction.
- Buildings and facilities below the limits set for Importance Level 3.

Importance Level 3:

- Buildings and facilities where more than 300 people can congregate in one area.
- Buildings and facilities with a primary school, a secondary school or day care facilities with a capacity greater than 250.
- Buildings and facilities with a capacity greater than 500 for colleges or adult educational facilities.
- Health care facilities with a capacity of 50 or more residents but not having surgery or emergency treatment facilities.
- Jails and detention facilities.
- Any occupancy with an occupant load greater than 5000.
- Power generating facilities, water treatment and waste water treatment facilities, any other public utilities not included in Importance Level 4.
- Buildings and facilities not included in Importance Level 4 containing hazardous materials capable of causing hazardous conditions that do not extend beyond property boundaries.

Importance Level 4:

- Buildings and facilities designated as essential facilities.
- Buildings and facilities with special post disaster functions.
- Medical emergency or surgery facilities.
- Emergency service facilities: fire, rescue, police station and emergency vehicle garages.
- Utilities required as backup for buildings and facilities of Importance Level 4.
- Designated emergency shelters.
- Designated emergency centres and ancillary facilities.
- Buildings and facilities containing hazardous materials capable of causing hazardous conditions that extend beyond property boundaries.

Importance Levels must be assigned on a case by case basis.

Example

A hospital may be of Importance Level 4 if it is the only hospital in an area. The same hospital may be of Importance Level 3 if it is one of many in an area.

A general method for the determination of the Importance Level of any building is to assess the hazard to human life and the impact on the public in the event of building failure as follows:

Building Importance Levels

Hazard To human life	Impact on the public I (Low)	Impact on the public II (Moderate)	Impact on the public III (Substantial)	Impact on the public IV (Extreme)
A (Low)	Level 1	Level 2	Level 2	Level 3
B (Moderate)	Level 2	Level 2	Level 3	Level 3
C (Substantial)	Level 2	Level 3	Level 3	Level 4
D (Extreme)	Level 3	Level 3	Level 4	Level 4

The annual probability of exceedance varies with the type of action.

Example

Building failures due to earthquake or cyclone may be widespread and therefore have more impact on the public than say thunderstorms, that affect relatively smaller areas.

Excerpt of BCA22 - referenced standards:

AS/NZS 1170 Part 0	2002	Structural design actions — General principles (incorporating amendments 1, 3 and 4)

Excerpts from AS1170.0 (2002)

P40

Amendment 2 – Not adopted in NCC

F2 IMPORTANCE LEVELS

The importance level of a structure shall be determined in accordance with Table F1.

Structures that have multiple uses shall be assigned the highest importance level applicable for any of those uses. Where an adjacent structure provides access to another structure with a higher importance level, then the structure providing access shall be designated the same importance level as the structure to which it provides access.

NOTE: Structures that have very low frequency fundamental modes of vibration should be considered for special study of their earthquake design event and structural response, e.g., very long conveyors.

TABLE F1

STRUCTURE TYPES FOR IMPORTANCE LEVELS

Consequences of failure	Description	Importance level	Comment
Low	**Low** consequence for loss of human life, *or* **small or moderate** economic, social or environmental consequences	1	Minor structures (failure not likely to endanger human life)
Ordinary	**Medium** consequence for loss of human life, *or* **considerable** economic, social or environmental consequences	2	Normal structures and structures not falling into other levels
High	**High** consequence for loss of human life, *or* **very great** economic, social or environmental consequences	3	Major structures (affecting crowds)
		4	Post-disaster structures (post disaster functions or dangerous activities)
Exceptional	Circumstances where reliability must be set on a case by case basis	5	Exceptional structures

AAFrom Section 3 – NZ Only

TABLE 3.1

IMPORTANCE LEVELS FOR BUILDING TYPES—NEW ZEALAND STRUCTURES

Importance level	Comment	Examples
1	Structures presenting a low degree of hazard to life and other property	Farm buildings, isolated structures, towers in rural situations Fences, masts, walls, in-ground swimming pools
2	Normal structures and structures not in other importance levels	Hotels, offices, and apartments less than 15 storeys high Car parking buildings Shopping centres less than 10 000 m^2 gross area
3	Structures that as a whole may contain people in crowds or contents of high value to the community or pose risks to people in crowds	Emergency medical and other emergency facilities not designated as post-disaster Airport terminals, principal railway stations, correctional institutions, schools, colleges, universities Structures over 15 storeys high of the following types: (a) Hotels and motels (b) Apartment buildings (c) Offices Public assembly buildings of more than 1000 m^2 Public museums and art galleries of more than 1000 m^2 Shopping centres with covered malls with over 10 000 m^2 gross area excluding parking Grandstands for more than 10 000 people
4	Structures with special post-disaster functions	Major infrastructure facilities, e.g., power stations, substations Air traffic control installations Designated civilian emergency centres, medical emergency facilities, emergency vehicle garages and their fuel supplies and ambulance, fire and police stations, etc. Ancillary installations necessary for the operation of Importance level 4 structures (emergency power, phone, radio, etc.)
5	Special structures (outside the scope of this Standard—acceptable probability of failure to be determined by special study)	Structures that have special functions or whose failure poses catastrophic risk to a large area (e.g. 100 km^2) or a large number of people (e.g. 100 000) Dams, extreme hazard facilities