

GUIDANCE



PART A

How buildings are managed in an emergency and who is responsible

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Section 1: Introduction

1.1 Purpose and scope of this guide

This guide describes the roles and responsibilities of central and local government and of other agencies for managing buildings in an emergency. It explains what is required, and provides detailed steps and checklists to help territorial authorities plan for and carry out rapid building assessments.

This guide replaces the 2009 New Zealand Society for Earthquake Engineering (NZSEE) document *Building Safety Evaluation during a State of Emergency – Guidelines for Territorial Authorities*.

It takes account of lessons learnt from recent natural disasters including the 2010/11 Canterbury earthquakes and 2016 Hurunui/Kaikōura earthquake and subsequent changes to civil defence emergency management legislation and planning.

<p>Part A – How buildings are managed in an emergency and who is responsible (sections 1-3)</p>	<p>Part A gives senior decision makers from local and central government an overview of the purpose of, and requirements for, managing buildings in an emergency. It outlines key actions and roles to help them better understand their obligations and how to prepare resources and arrangements to respond in and following an event.</p> <p>Part A will also be of interest to all those involved in emergency response, as it explains the overall system and specific processes for considering an emergency's impact on buildings within an affected community. This audience includes central and local government staff and managers, CDEM Group personnel, engineers, architects, other building assessors, building owners, and the general public.</p>
<p>Part B – Preparing for and managing buildings in an emergency (sections 4-6)</p>	<p>Part B helps territorial authorities' Building Control Managers to review and update their operational plans and standard operating procedures so they are ready to manage buildings in an emergency as part of CDEM arrangements. This Part gives detailed guidance for carrying out rapid building assessments when these are required. It also contains some guidance for the recovery phase, and for learning from the event to minimise risk before the next time.</p>
<p>References and resources (Appendices)</p>	<p>The Appendices include: checklists for readiness, activating a building assessment plan and assembling the necessary equipment; a memorandum of understanding for engaging rapid building assessors; relevant health and safety information; and guidance for cordoning and barricading. Appendix 8 explains the abbreviations and acronyms used in this guide.</p>

This guide applies:

- if a state of local or national emergency has been declared under the Civil Defence Emergency Management Act 2002 (the CDEM Act), sections 66 to 73, or
- if a transition period has been notified under the CDEM Act (sections 94A to 94F), or
- in other situations when an emergency has occurred (with no state of emergency or transition period), using the powers under the Building Act 2004 (the Building Act) and other legislation apart from the CDEM Act.

It should be read in conjunction with the CDEM Act, the National Civil Defence Emergency Management Plan Order 2015 (the National CDEM Plan) and the Guide to the National CDEM Plan, and other MBIE resources such as the field guides for rapid post disaster building usability assessments. Also refer to relevant resources provided by technical societies such as the New Zealand Society of Earthquake Engineering (NZSEE), Structural Engineering Society New Zealand (SESOC) and New Zealand Geotechnical Society (NZGS).

Key point

Provisions for transition periods were included in the CDEM Act in 2016. These are similar to the provisions in the Act for a state of emergency, but support the transition from the response into the initial recovery phase.

Throughout this guide, references to Controllers (who are appointed in a state of emergency) can be taken to include Recovery Managers (who are appointed in a transition period).

1.2 Managing buildings in an emergency to protect life and minimise damage

The National CDEM Plan (section 77) describes the objective of managing buildings in an emergency as “to –

- (a) protect life and promote safety within and in the vicinity of each building; and
- (b) minimise damage to and loss of property; and
- (c) restore building functions as soon as possible to minimise social and economic consequences of the emergency; and
- (d) minimise losses or disruption of lifeline utility services that are in or near any building”.

The paramount consideration in the performance of functions and duties is to protect people from further injury or death.

Each new emergency will be different, demanding flexibility and adaptability from those leading the response. However, the core processes of planning for managing buildings in an emergency and carrying out rapid building assessments, as described in this guide, are important whatever the event to help protect the public and understand the community impact.

1.3 Responsibilities under the National CDEM Plan

The framework, roles and responsibilities for managing buildings in an emergency are set by the National CDEM Plan, managing immediate risks to people and property by applying CDEM's 4 Rs:

- **reducing the risk**; and
- being **ready** for,
- **responding** to, and
- **recovering** from any emergency, including reducing risk further where possible.

Each territorial authority is required to manage buildings within its district as described in Table 1-1.

Table 1-1: Responsibilities for managing buildings in emergencies

Responsibilities for managing buildings during Reduction and Readiness include: (from the National CDEM Plan section 79)	
A territorial authority is to...	Develop and maintain arrangements, in accordance with national guidelines and procedures, for assessments, evaluations, and steps to be undertaken for managing risks to and uncertainties as to the safety of buildings in response to and recovery from an emergency
MBIE is to...	Plan for the national coordination of building management in an emergency in consultation with the agencies, professional bodies, and members of the private sector that have roles, responsibilities, and interests in this regard Coordinate: <ul style="list-style-type: none"> • training and qualification of building professionals who are able to assess buildings during and after an emergency • maintenance of rapid building assessment processes • maintenance of arrangements for mobilising and demobilising trained rapid building assessors and detailed engineering evaluators • maintenance of arrangements for mobilising and demobilising volunteer rapid building assessors • maintenance of sufficient capability of assessors nationally to enable timely support to one or more CDEM Groups when local capabilities are exceeded

**Responsibilities for managing buildings during Response and Recovery include:
(from the National CDEM Plan section 80)**

**A territorial authority
is to...**

As necessary:

- lead rapid building assessments
- take steps to manage the safety of people in and near a building, either in accordance with the directions of the National Controller, Group Controller, or Local Controller during a state of emergency or a Recovery Manager during a transition period or in line with its functions under the Building Act 2004 in any other emergency, including, as applicable:
 - cordoning
 - carrying out stabilisation work and barricading
 - carrying out demolitions and setting up partial demolition cordoning
 - requiring the mandatory evacuation of a building or the area around a building when necessary

MBIE is to...

- Provide national coordination of building management support to a CDEM Group when requested by the Director of Civil Defence Emergency Management (the Director) or the National Controller
- Lead rapid building assessment functions in a state of national emergency*
- Advise and report on operational building management needs and options to the Director or the National Controller
- Provide building management policy advice to the Government as requested
- Lead the securing and management of compromised building sites for forensic investigations
- Advise the Government, during recovery after an emergency, on the requirements for facilitating the efficient and effective recovery of building stock and functions

Note: *'Lead' in this context is described in the Guide to the National CDEM Plan, section 15.5, assisting the National Controller with the national response by: "supporting and reporting to the Local Authority Building Assessment Manager(s) in setting up and coordinating rapid assessment teams, reporting and analysis of damage, providing stabilisation/demolition advice, and any other applicable building safety related matter".

Section 2: Managing buildings in an emergency: what is involved?

This section is for senior decision makers, territorial authority staff and others involved in an emergency response.

It provides an overview of the process for managing buildings in an emergency, roles and responsibilities for doing so, and resources needed to support this.

2.1 Key elements of managing buildings in an emergency

Managing buildings in an emergency includes four key elements:

1. First, understand the extent of the emergency and the nature of its impact on buildings within the affected community.
2. Then, if appropriate, carry out a rapid building assessment operation within an identified area where there is cause for concern for public safety in or around buildings. This may result in building placards to enable, restrict or prohibit access where necessary.
3. Next, manage public safety issues both inside and outside any rapid building assessment operational area. This includes working with owners on repairs and barricades, or urgent demolition where key public access routes are affected.
4. Following that, manage issues caused by the emergency to enable the community to recover to business as usual. This includes: providing timely information to the public; managing, updating and the eventual removal of building placards, cordons and barricades; seeking more detailed assessments from owners where appropriate; and monitoring urgent repair work. It also involves debriefs, and evaluations of the process and damage findings to inform future improvements.

To carry out these tasks effectively once the emergency has occurred, attention, planning and resources need to be dedicated **NOW before it happens**. Who, how and what will the territorial authority or other agency do when an emergency occurs? Being ready is an essential part of managing buildings in an emergency.

The National CDEM Plan sets the framework, roles and responsibilities for managing buildings in an emergency. Figure 2-1 illustrates this using the CDEM 4Rs framework: risk reduction, readiness, response and recovery.

Key point

Emergencies can range in scale from affecting a single ward area to a district, city or region or more than one CDEM Group area. States of emergency can correspond to each of these.

Figure 2-1: Managing buildings in an emergency: actions and roles



CDEM – Civil Defence Emergency Management
 MBIE – Ministry of Business, Innovation and Employment
 TA – Territorial authority

2.1.1 Determine the extent and nature of the emergency's impact on buildings

A local authority must plan and provide for civil defence emergency management within its district (section 64 of the CDEM Act).

If an emergency occurs, plans developed by the affected territorial authority will identify who is responsible for the immediate scoping of the nature and impact of this emergency on buildings. This is likely to be the territorial authority's Building Control Manager; for this purpose termed the 'Building Response Manager'. Figure 4-1 in section 4 shows the relationship between the Building Response Manager and the Coordinated Incident Management System structure.

After attending to the safety of their own family, this person will immediately liaise with others and get a preliminary picture of damage to buildings within their jurisdiction, including:

- the geographic extent of damage
- whether the damage is likely to cause danger to the people in or near buildings
- the type of buildings affected.

In developing this preliminary picture, the Building Response Manager should get input as quickly as possible from other building officials and experienced local structural and geotechnical engineers, who should be pre-briefed to function as a specialist operational panel.

This information is then provided to the CDEM Controller to help inform the decision (made by the mayor or other authorised person) whether or not to declare a state of emergency or give notice of a transition period under the CDEM Act. The state of buildings and whether or not a rapid building assessment process is considered necessary will be only one of the factors influencing this decision, but it is expected that the Building Response Manager will have direct input into the decision making process.

2.1.2 Carry out rapid building assessment operation if required

If a state of emergency is declared or a transition period is notified, the Controller (or Recovery Manager in a transition period) then needs to decide:

- if a rapid building assessment operation is warranted to manage the immediate risks to people and property, and, if so
- the area this should cover, taking into account cordon placement and the location of key public access routes.

The Controller can direct a territorial authority to carry out assessments in areas of significant damage within its district. Assessors will be able to placard buildings to restrict or prohibit access where this is necessary for people's safety.

If no state of emergency is declared (or transition period notified) under the CDEM Act, a territorial authority may still decide to carry out some building assessments. However, its powers to inspect and access buildings will be limited to those in the Building Act. This includes powers to undertake inspections to identify dangerous, insanitary and earthquake-prone buildings. This decision should still be taken in consultation with the relevant Controller, who coordinates the overall emergency response even if no state of emergency exists within that district.

The key elements of a rapid building assessment operation include:

- establishing a management team, liaising with MBIE for senior operational support
- mobilising and inducting trained assessors, including building control officers and structural and geotechnical engineers
- providing resources (eg forms, placards, safety equipment and systems), and a technology platform for data capture
- carrying out rapid assessments, managing placard status, recording and transferring field data, and plotting and analysing results for operational and public information purposes
- providing status reports to the Controller and other agencies, and answering media queries.

Table 2-1 describes the different types of building and area assessment. Table 2-2 lists the assessment outcomes and types of placard issued following a rapid building assessment.

Table 2-1: Building and area assessment types

Assessment type (responsibility)	Purpose
<p>Rapid impact assessment (CDEM Group)</p>	<p>Immediately after an event, emergency services and CDEM Group representatives will complete initial assessments on the ground, and possibly from the air, and collate other information on overall impacts. The goals are to identify:</p> <ul style="list-style-type: none"> • which areas and people are affected and how severely • which buildings, structures, interrupted services, and secondary hazards pose significant public safety concerns. <p>Rapid impact assessments build situational awareness to support establishing priority needs in the response. They are a key source of information when making decisions about whether a state of emergency should be declared or transition period notified; and if so, whether a rapid building assessment operation is needed and where.</p>
<p>Rapid building assessment (territorial authority working to relevant CDEM official)</p>	<p>Rapid building assessments are a brief evaluation of individual buildings and their immediate surrounds for damage, usability and hazards exposure. The goal is to assess immediate risk to public safety. When carrying out these assessments, actual or potential land instability and geotechnical hazards also need to be considered. There are two assessment levels:</p> <ul style="list-style-type: none"> • Level 1 assessments – these begin within hours of the event and mainly involve external building inspections. They are likely to take about 15 to 20 minutes per building. • Level 2 assessments – these may be completed at the same time as Level 1 assessments or later. They involve internal and external inspection, and can take two to four hours per building. They do not normally include taking off wall linings or taking down ceilings to check for hidden damage. <p>Rapid building assessors issue placards for each building they assess.</p>
<p>Interim Use Evaluation (building owner)</p>	<p>Interim Use Evaluations (IUEs) are generally completed during the recovery phase and are the responsibility of the building owner. They may be carried out to confirm safe reoccupation of buildings before completing a Detailed Damage Evaluation.</p>
<p>Detailed or Targeted Damage Evaluation (building owner)</p>	<p>The aim of a Detailed Damage Evaluation (DDE) is to determine the full scope of damage to the building to help with specifying repairs. Depending on the nature of the event, a Targeted Damage Evaluation (TDE) may be applicable, focusing on particular building types or building elements.</p> <p>DDEs of key facilities may be required as soon as possible as part of the recovery from an emergency. This will require the appropriate priority response agreements to be set up with engineers before an emergency.</p>

Table 2-2: Rapid building assessment outcomes and placards

Observed damage	Assessment outcome (recorded on the assessment form)	Placard issued
Light or no damage (low risk)	W = CAN BE USED No immediate further evaluation required	CAN BE USED (WHITE)
Moderate damage (medium risk)	Y1 = USE RESTRICTED IN PART(S) No entry to parts until risk reduced by repair or demolition	RESTRICTED ACCESS (YELLOW)
	Y2 = USE RESTRICTED to SHORT-TERM ENTRY with or without supervision	
Heavy damage (high risk)	R1 = ENTRY PROHIBITED At risk from external factors such as adjacent buildings or from ground failure	ENTRY PROHIBITED (RED)
	R2 = ENTRY PROHIBITED Significant damage	

2.1.3 Managing public safety issues during the emergency response

The Building Response Manager will need to manage the safety of people in and near buildings during the emergency response (in accordance with directions from the Controller during a state of emergency), regardless of whether a rapid building assessment operation is carried out. This involves managing safety issues inside and outside any operational area, including:

- working with owners on building-specific barricades
- authorising any urgent repairs – this is typically done using the Building Act provisions for certificates of acceptance for urgent work (sections 42, 96) rather than by requiring building consents
- organising urgent stabilising or demolition work where key public access routes are affected.

2.1.4 Enabling the recovery

Helping affected communities recover from an emergency and return to business as usual requires oversight and coordination of various follow-up activities, including:

- requesting, receiving and reviewing further building evaluations (eg Interim Use Evaluations, Detailed/Targeted Damage Evaluations)
- changing building placards as appropriate following further engineering assessments
- preparing public information
- the maintenance and eventual removal of cordons and barricades
- monitoring urgent repair work and issuing certificates of acceptance
- replacing any remaining yellow (restricted access) or red (entry prohibited) placards with dangerous building notices under the Building Act section 124, as appropriate.

2.2 Local planning and resources backed by national capability and training

Territorial authorities should be ready to manage buildings effectively in an emergency by preparing operational plans that include: assigned responsibilities; trained personnel understanding their roles; relationships/agreements with key organisations supporting any emergency event; and required resources.

MBIE maintains a national support system, including processes and training.

2.2.1 Operational readiness including plans and resources

All territorial authorities need to build capacity and capability so they can have an effective response to, and recovery from, emergencies. To be operationally ready they need to have a current operational plan and standard operating procedures (section 4 gives detailed steps for getting prepared).

Territorial authority operational plans need to be documented, and consistent with, and address issues outlined in, the CDEM Group Plan. These should include identified hazards and risks and their intended management, lifeline utility services and other key vulnerabilities in the region, how response and recovery will be managed, and governance and accountability mechanisms.

Key point

All territorial authorities are members of regional CDEM Groups. CDEM Groups must develop plans that identify the hazards and risks to be managed in their area and the arrangements necessary to manage these hazards and risks. The arrangements can include managing buildings affected by an emergency.

The territorial authority's plans for managing buildings in an emergency should include:

- identification of all staff who will take key roles during a response (and alternates)
- where the response will be managed from; eg the Emergency Operations Centre
- how to identify and mobilise the right resources, such as structural and geotechnical engineers to undertake rapid building assessments
- how data will be collected and managed through the territorial authority IT systems
- how to address health and safety issues.

It is the responsibility of territorial authorities to make sure there are enough managers and building officials trained and registered with the MBIE training system (see section 4.7) to understand the functions and processes for managing buildings in an emergency, and to be capable of establishing and managing an operational response.

Planning should also include having in place relationships/understandings with other relevant agencies and the local engineering and building owner community who will be involved in any response; particularly in relation to key community resources such as hospitals, police and fire stations, care facilities, schools, and commercial facilities.

Resources that will be useful when undertaking a rapid building assessment operation following an emergency and guidance for recovery (eg field guides, mobile devices, placards, street maps, pre-event Light Detection and Ranging (LiDAR) and other building and land datasets, and safety equipment) need to be available and accessible.

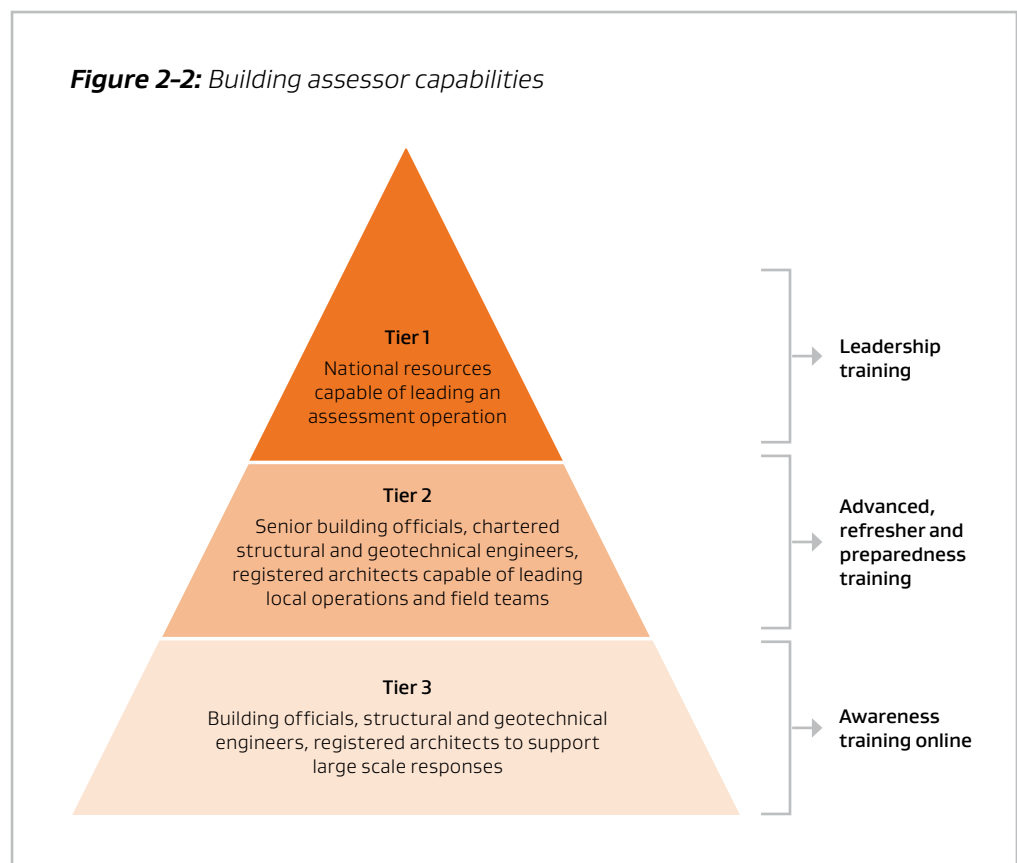
2.2.2 National resources and training

MBIE maintains a three-tiered capability system to support readiness for carrying out rapid building assessments. Figure 2-2 shows these tiers and the associated training: national face to face training for Tiers 1 and 2; and self-directed awareness training for Tier 3.

MBIE maintains a register of the Tier 1 and Tier 2 assessors which can be used to mobilise the appropriate resources for a particular emergency, both in terms of numbers and necessary skillsets. For example, some emergencies have a strong geotechnical element and require the involvement of geotechnical engineers and engineering geologists to assess the risks of land to buildings, as well as structural engineers to assess building structure.

In an emergency, MBIE will coordinate Tier 1 personnel as necessary. Tier 2 assessors should be capable of leading rapid building assessment teams. Tier 3 should be able to provide support.

MBIE also supports territorial authorities by providing resources such as general guidance, rapid post-disaster field guides, standard assessment forms and placards.



Section 3: Legal responsibilities and powers for managing buildings in an emergency

This section outlines the core legislation for managing buildings in an emergency, and the roles and responsibilities for doing so.

Civil defence emergency management legislation provides the key responsibilities and mandates for managing buildings in an emergency; namely the:

- CDEM Act 2002, and
- National CDEM Plan Order 2015.

The Building Act 2004 also provides relevant powers.

Other relevant Acts and Regulations include the:

- Local Government Act 2002
- Heritage New Zealand Pouhere Taonga Act 2014
- Health and Safety at Work Act 2015
- Fire and Emergency New Zealand Act 2017
- Fire Safety and Evacuation of Buildings Regulations 2006
- Resource Management Act 1991.

Appendix 1 has more details.

3.1 Civil Defence Emergency Management Act 2002

The CDEM Act creates a legislative framework within which New Zealand can reduce risks and prepare for, deal with, and recover from emergencies. It includes setting out the roles and responsibilities of the territorial authority as a member of a CDEM Group, the key personnel such as a Group or Local Controller, and the duties of other agencies and lifeline utilities.

The CDEM Act (section 64) provides the mandate for local authorities to plan for and manage buildings in an emergency as part of their overall CDEM responsibilities:

64 Duties of local authorities

- (1) A local authority must plan and provide for civil defence emergency management within its district.
- (2) A local authority must ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency.

It also provides the mandate and responsibilities for government departments and others to undertake CDEM functions:

59 Departments and others to undertake civil defence emergency management functions and responsibilities

Every department, Civil Defence Emergency Management Group, local authority, emergency service, and lifeline utility, and any other person required by this Act or any regulations made under this Act, or any civil defence emergency management plan, to undertake civil defence emergency management or to perform any functions or duties, must take all necessary steps to undertake civil defence emergency management or to perform those functions and duties.

If a state of emergency or a transition period is in place under the CDEM Act, rapid building assessors acting under the direction of the Building Response Manager (who, in turn, acts under the direction of a CDEM Controller or Recovery Manager) can examine buildings. They have powers of entry, and they can put placards on buildings to restrict or prohibit access (sections 87 and 92 of the CDEM Act).

Territorial authorities acting under the direction of a Controller (or a Recovery Manager during a transition period) can also require owners to obtain building assessments if they consider the buildings pose a risk to life safety or other property (under sections 91 and 94N of the CDEM Act).

Appendix 1 Table A1.1 highlights sections of the CDEM Act relating to building assessment.

Interpretations under the CDEM Act

Section 4 of the CDEM Act contains the following.

An emergency means a situation that:

- (a) is the result of any happening, whether natural or otherwise, including, without limitation, any explosion, earthquake, eruption, tsunami, land movement, flood, storm, tornado, cyclone, serious fire, leakage or spillage of any dangerous gas or substance, technological failure, infestation, plague, epidemic, failure of or disruption to an emergency service or a lifeline utility, or actual or imminent attack or warlike act; and
- (b) causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand or any part of New Zealand; and
- (c) cannot be dealt with by emergency services, or otherwise requires a significant and co-ordinated response under this Act.

Civil defence emergency management:

- (a) means the application of knowledge, measures, and practices that—
 - (i) are necessary or desirable for the safety of the public or property; and
 - (ii) are designed to guard against, prevent, reduce, recover from, or overcome any hazard or harm or loss that may be associated with any emergency; and
- (b) includes, without limitation, the planning, organisation, co-ordination, and implementation of those measures, knowledge, and practices.

3.2 National Civil Defence Emergency Management Plan Order 2015

The National CDEM Plan states the guiding principles, roles and responsibilities for CDEM across the 4 Rs. This is so all agencies and CDEM Groups can:

- understand the hazards and risks
- work to reduce those hazards
- build resilience in respect of those hazards
- build capability and capacity to provide coordinated, integrated, and effective responses to, and recovery from, emergencies¹.

Sections 76–80 of the National CDEM Plan cover managing buildings in emergencies² and set out the territorial authorities' and MBIE's responsibilities for doing so – refer Table 11 in section 1.3 of this guide.

The Guide to the National Civil Defence Emergency Plan 2015, section 15 Building Management, has more explanation and guidance³.

3.3 Building Act 2004

The Building Act governs any building assessment operation if a state of emergency has not been declared or a transition period notified, or if these have expired or been terminated.

The Building Act regulates building work and sets performance standards via the Building Code that this work needs to comply with. Building work includes repairs, rebuilding or demolition that may occur following an emergency. This Act also provides powers for territorial authorities to: inspect buildings (although these powers are more limited than under the CDEM Act); determine whether a building is dangerous, earthquake prone or insanitary; and take measures to remove the danger.

Appendix 1 has more details of these powers and the building notices territorial authorities can issue under this Act.

¹ Section 4 of the National CDEM Plan 2015

² <http://www.legislation.govt.nz/regulation/public/2015/0140/latest/DLM6485804.html>

³ <http://www.civildefence.govt.nz/assets/guide-to-the-national-cdem-plan/Guide-to-the-National-CDEM-Plan-2015-Section-15.pdf>