

BUILDING PERFORMANCE



Managing buildings in an emergency

Guidance for decision-makers
and territorial authorities

JANUARY 2020





**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

Ministry of Business, Innovation and Employment (MBIE)

Hīkina Whakatutuki

The Ministry of Business, Innovation and Employment's (MBIE) purpose is to grow the New Zealand economy to provide a better standard of living for all New Zealanders.

MBIE does this by working with others to help businesses to be more competitive, improving job opportunities and by ensuring quality housing is more affordable.

This document's status

This guidance is a 'living document'. The Ministry of Business, Innovation and Employment (MBIE) periodically updates this guidance to reflect legislative changes and insights gained from the responses to emergency events.

This is the second edition of the guidance, and incorporates changes due to the Building Amendment Act 2019. The first edition was published in June 2018.

It is a part of a suite of documents, which includes:

- Field Guide: Rapid Post Disaster Building Usability Assessment – Flooding
- Field Guide: Rapid Post Disaster Building Usability Assessment – Earthquakes
- Field Guide: Rapid Post Disaster Building Usability Assessment – Geotechnical Assessment

You can check for the latest version of this guidance and the field guides at MBIE's website www.building.govt.nz

This work is licensed under a Creative Commons Attribution 4.0 International Licence.

You can copy all or some of this document if you are using it for education or public information, and you say it came from MBIE. You cannot copy any of this document for commercial use and you cannot keep it in a retrieval system unless you ask MBIE first.

The ISBN numbers are:

- ISBN (print) 978-1-98-851775-9
- ISBN (online) 978-1-98-851774-2

This document is a guide only. It should not be used as a substitute for legislation or legal advice. The Ministry of Business, Innovation and Employment is not responsible for the results of any actions taken on the basis of information in this document, or for any errors or omissions.

© Crown Copyright 2020

The material contained in this report is subject to Crown copyright protection unless otherwise indicated. The Crown copyright protected material may be reproduced free of charge in any format or media without requiring specific permission. This is subject to the material being reproduced accurately and not being used in a derogatory manner or in a misleading context. Where the material is being published or issued to others, the source and copyright status should be acknowledged. The permission to reproduce Crown copyright protected material does not extend to any material in this report that is identified as being the copyright of a third party. Authorisation to reproduce such material should be obtained from the copyright holders.

Foreword

New Zealand experiences significant natural hazards that can damage buildings and infrastructure. The 2010-11 Canterbury earthquakes, 2016 Hurunui/Kaikōura tsunami and earthquake and 2017 Edgecumbe floods are just recent examples of emergencies that have had a serious impact on the built environment.

We need to reduce the risk to, and from, our buildings when emergencies occur. We also need to be ready to respond to and recover from these emergencies. Successfully managing the use and assessment of buildings at this time can protect lives and maintain public confidence during stressful times for the affected community.

This guide gives senior decision makers at national and local government level an understanding of their legal obligations in relation to managing buildings in an emergency, enabling them to direct appropriate resources to prepare for and manage an effective response and recovery. It sets out a consistent national framework for doing so, and describes key processes and tools to help with planning and training for these events. In particular, it provides information and tools to help territorial authorities with carrying out rapid building assessments when these are considered necessary.

This guide also recognises the importance of including a geotechnical component in the response to most emergencies. A key part of the process is assessing land that supports or affects buildings; something that was brought into sharp relief following the Canterbury earthquakes, when people and buildings were affected by rock roll, liquefaction and potential cliff collapse.

It is essential that every territorial authority can quickly mobilise the right resources and lead the response to major emergencies in their area. Please use this document to inform your operational plans and procedures.

Anna Butler

General Manager, Building System Performance
Ministry of Business, Innovation and Employment

May 2018

Contents

PART A:

How buildings are managed in an emergency and who is responsible **04**

Section 1: Introduction **05**

- 1.1 Purpose and scope of this guide 05
- 1.2 Managing buildings in an emergency to protect life and minimise damage..... 06
- 1.3 Responsibilities under the National CDEM Plan 07

Section 2: Managing buildings in an emergency: what is involved? **09**

- 2.1 Key elements of managing buildings in an emergency 09
- 2.2 Local planning and resources backed by national capability and training..... 16

Section 3: Legal responsibilities and powers for managing buildings in an emergency **19**

- 3.1 Civil Defence Emergency Management Act 2002..... 19
- 3.2 National Civil Defence Emergency Management Plan Order 2015 21
- 3.3 Building Act 2004..... 21

PART B:

Preparing for and managing buildings in an emergency

24

Section 4: Readiness – prepare for managing buildings in an emergency	25
4.1 Readiness step one: understand the legal context	27
4.2 Readiness step two: develop an operating structure.....	34
4.3 Readiness step three: identify an operational base and other facilities.....	39
4.4 Readiness step four: gather information about buildings, critical infrastructure and the environment.....	40
4.5 Readiness step five: develop a building assessment plan.....	43
4.6 Readiness step six: gather resources.....	45
4.7 Readiness step seven: identify people with specialist skills.....	47
Section 5: Response – managing buildings once an emergency occurs	51
5.1 Managing buildings to help protect life and property.....	53
5.2 Managing a rapid building assessment operation	57
5.3 Response step one: Building Response Manager activates the building assessment plan.....	58
5.4 Response step two: mobilise key people to manage the assessments	58
5.5 Response step three: plan the rapid building assessment operation.....	60
5.6 Response step four: establish supporting services	63
5.7 Response step five: mobilise rapid building assessors	68
5.8 Response step six: get the building assessments underway	69
5.9 Response step seven: manage the ongoing operation	73
5.10 Response step eight: manage communications	84
Section 6: Recovery and risk reduction	86
6.1 Territorial authorities make further building checks.....	88
6.2 Owners provide evidence about building safety	90
6.3 Managing ongoing hazards.....	91
6.4 Certificates of acceptance for emergency repairs.....	93
6.5 Certificates of acceptance for emergency repairs.....	94
6.6 Review the completed operation and take steps to reduce risk.....	95

APPENDICES:

References and resources for managing buildings in emergencies **96**

Appendix 1: Relevant legislation	97
A1.1 Civil Defence Emergency Management Act 2002.....	97
A1.2 Building Act 2004	99
A1.3 Local Government Act 2002	103
A1.4 Heritage New Zealand Pouhere Taonga Act 2014.....	104
A1.5 Health and Safety at Work Act 2015.....	104
A1.6 Fire and Emergency New Zealand Act 2017.....	104
A1.7 Resource Management Act 1991.....	104
Appendix 2: Readiness checklist	105
Appendix 3: Equipment and resource checklists	107
A3.1 Resource checklist: Emergency Operations Centre	107
A3.2 Resource checklist: territorial authority to supply to each assessment team.....	108
A3.3 Resource checklist: building assessors to supply.....	109
Appendix 4: Response checklist: activating a building assessment operation	110
Appendix 5: Cordons and barricades	112
A5.1 Cordoning – example checklist.....	112
A5.2 Barricading for public safety – guidelines.....	112
Appendix 6: Health and safety	115
A6.1 For territorial authorities and rapid building assessment team leaders	115
A6.2 For rapid building assessment teams	118
Appendix 7: Resources	121
A7.1 Memorandum of understanding for assessors	121
A7.2 Field guides	125
A7.3 Placards and assessment forms.....	126
A7.4 Building Amendment Act forms	127
A7.5 CDEM documents.....	128
A7.6 Guidance for further building evaluations	129
Appendix 8: Abbreviations and acronyms used in this guide	130



PART A

How buildings are managed in an emergency and who is responsible

Section 1: Introduction (p5)

Broad objective of managing buildings in an emergency and requirements for doing so

Section 2: Managing buildings in an emergency (p9)

Actions and roles of senior decision makers, territorial authority staff and others involved in an emergency response

Section 3: Legal responsibilities and powers for managing buildings in an emergency (p19)

Mandate and expectations (the core legislation)

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 natural disasters including the 2010/11 Canterbury earthquakes and 2016 Hurunui/Kaikōura earthquake and subsequent changes to civil defence and building emergency management legislation and planning, including the Building Amendment Act 2019.

<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 during 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 and taking other actions to manage affected buildings when 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
- if an area has been designated for building emergency management under section 133BC of the Building Act 2004 (the Building Act).

It should be read in conjunction with the CDEM Act, Subpart 6B of Part 2 of the Building 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.

Provisions for managing buildings after an emergency were included in the Building Act in 2019. These provisions set out an end-to-end process for managing buildings within 'designated' areas from response to recovery.

Throughout this guide, references to Controllers (who are appointed in a state of emergency) can also be taken to include both Recovery Managers (who are appointed in a transition period) and officers/officials making decisions on behalf of territorial authorities.

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 undertaking or directing further repair work. It also involves debriefs, evaluations of the process and damage findings to inform future improvements.

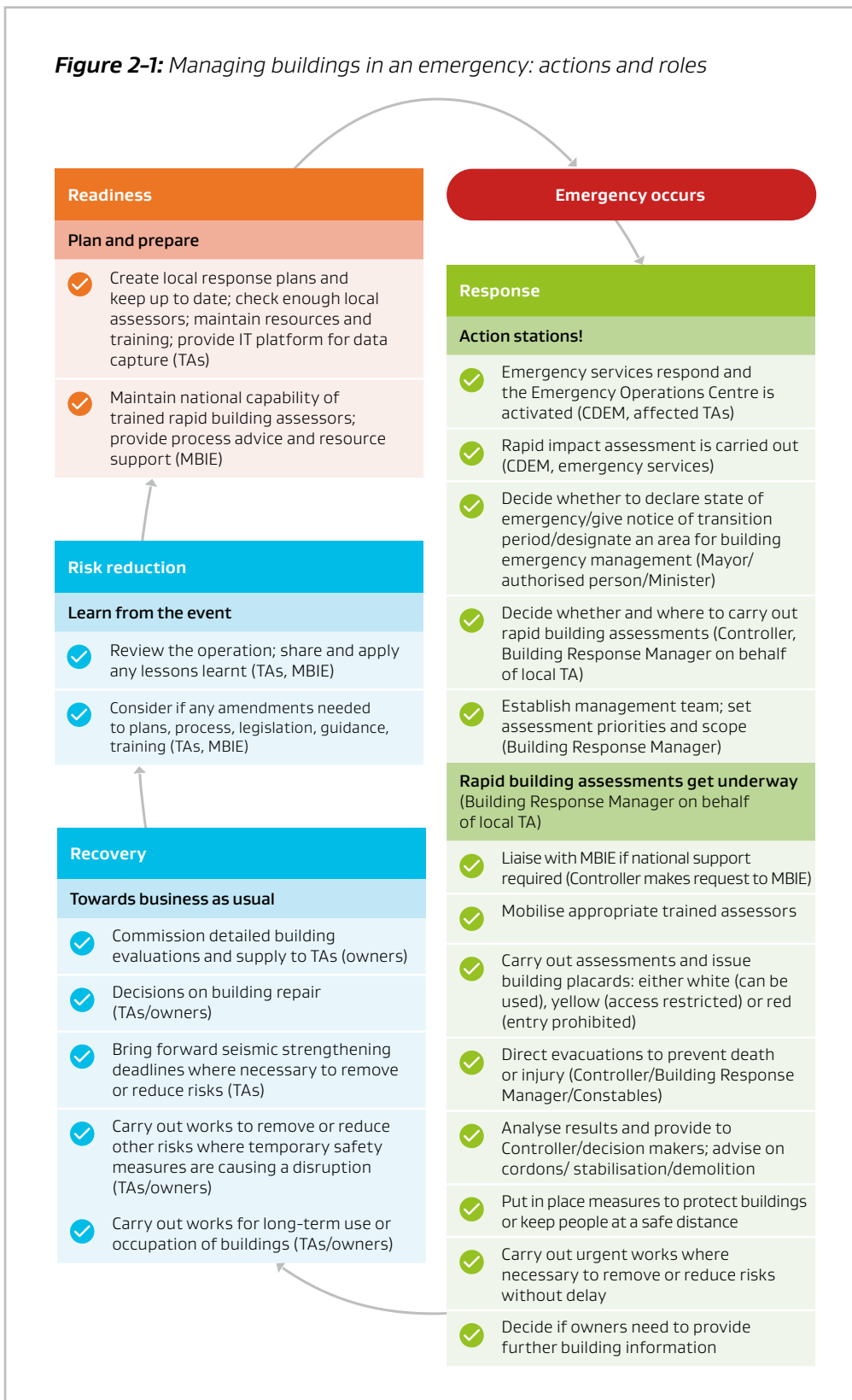
To carry out these tasks effectively once the emergency has occurred, attention, planning and resources need to be dedicated **NOW before it happens**. Who, how and what will the territorial authority or other agency do when an emergency occurs? Being ready is an essential part of managing buildings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



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 to declare a state of emergency and/or give notice of a transition period under the CDEM Act, and whether to 'designate' an area for building emergency management under the Building 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.

If an area has been designated for building emergency management but no state of emergency or transition period is in place, decisions on any rapid building assessment operation are instead made by the officer/official who made the designation decision on behalf of the territorial authority.

The Controller (or other authorised decision-maker) 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.

The key elements of a rapid building assessment operation include:

- establishing a management team, liaising with MBIE for senior operational support such as 'Tier 1' assessors capable of leading a rapid building assessment operation
- 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. Placards must be issued under the Building Act for assessments taking place in areas that have been designated for building emergency management. Placards are issued under the CDEM Act if there is no designation in place but a state of emergency or transition period is in effect.</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	

If no state of emergency, transition period or designation is in place, a territorial authority may still decide to carry out some building assessments. However, its powers will be limited to the provisions of the Building Act relating to dangerous, insanitary and earthquake-prone buildings. The decision to carry out assessments should be taken in consultation with the relevant Controller, who coordinates the overall emergency response even if no state of emergency exists within the district.

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, regardless of whether a rapid building assessment operation is carried out. This involves managing safety issues inside and outside any operational area.

During a state of emergency or when an area has been designated for building emergency management, these actions can include:

- evacuating buildings to prevent death or injury
- placing notices or placards restricting the use of buildings to remove or reduce risks (see section 5.9.2)
- 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 stabilisation or demolition work where key public access routes are affected.

Further actions that can be taken by a responsible person when a designation is in place include carrying out urgent works (including demolitions) to remove or reduce a risk of injury or death, or a risk to critical infrastructure (see section 5.9.6).

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 such as Interim Use Evaluations, detailed/targeted evaluations (see section 6.2)
- 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.

Further actions that can be taken by a responsible person when a designation is in place include:

- carrying out/directing works to remove or reduce 'other' (ie, non-urgent) risks where measures put in place to keep people safe or protect buildings are causing ongoing disruption to a public thoroughfare, the use of another building or critical infrastructure (see section 6.3)
- directing building owners to carry out works for the long-term use or occupation of a building (see section 6.4).

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 and be authorised to make building emergency management decisions 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.

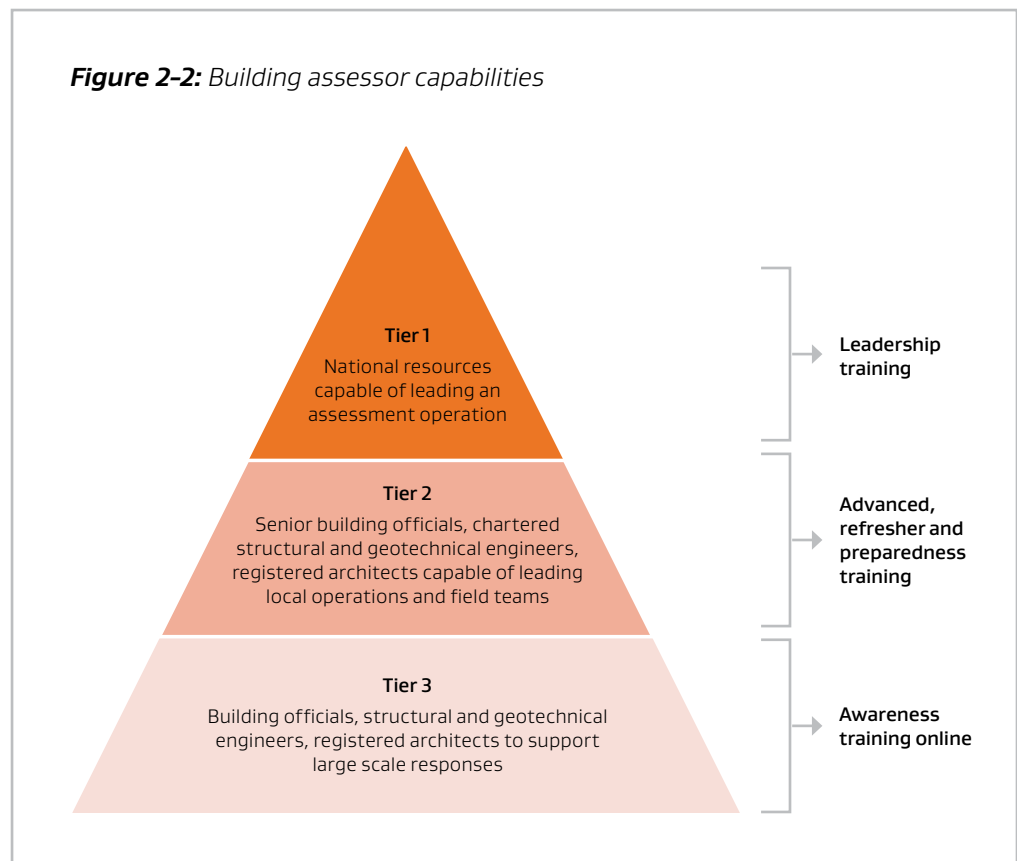
2.2.2 National resources and training

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, and
- Building Act 2004 (as amended by the Building Amendment Act 2019).

The Building Act 2004 also provides relevant powers for managing dangerous or insanitary buildings.

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 was amended in 2019 to provide a new system for quickly and effectively managing buildings during and after an emergency. This system is activated after an emergency event when an affected area is 'designated' for building emergency management under section 133BC of the Building Act.

The building emergency management powers available during a designation allow territorial authorities to manage buildings effectively, from the initial response to an emergency event right through to the recovery. The powers have also been designed to balance personal and property rights, and to ensure heritage values are appropriately recognised.

Any designation must be in the public interest and necessary to protect people, buildings, public thoroughfares or critical infrastructure. It must also take into account the impact of the emergency and the likelihood of a further event that could pose additional risk.

Once an area has been designated, all building emergency management functions should be managed under the Building Act. The CDEM Act should not be used to manage buildings unless safety risks cannot be removed or reduced by exercising powers under the Building 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>

As with a state of emergency or a transition period, once a designation is in place rapid building assessors (acting under delegated authority) can examine buildings, have powers of entry and can put placards on buildings to restrict or prohibit access.

The 'responsible person' (typically the Building Response Manager and their delegates) also has the power to:

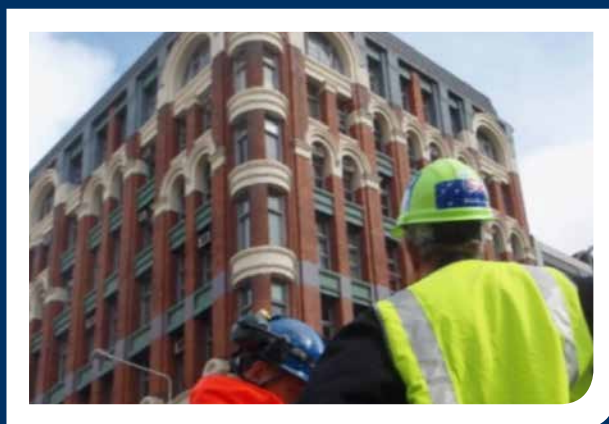
- evacuate buildings to prevent death or injury
- put in place measures such as hoardings or fences to keep people at a safe distance from a building
- carry out urgent works where necessary to remove or reduce risks without delay (see section 5.9.6)
- carry out or require works to remove or reduce other risks where measures put in place to keep people safe or protect buildings are causing ongoing disruption to a public thoroughfare, the use of another building or critical infrastructure (see section 6.3)
- require works for the long-term use or occupation of a building (see section 6.4)
- require a building owner to provide information to help determine the building's risks and whether any works are required (see section 6.2).

When exercising these powers, a responsible person must have regard to the following principles:

- The paramount consideration is the protection of human life and safety
- Actions should be proportionate to the risks
- Actions should result in minimal restriction of an owner or occupier's ability to continue to use and occupy the property, and any restriction should be for no longer than reasonably necessary
- Decisions should be based on up-to-date information, including about the possible occurrence of further emergencies or other relevant events and other changes in the type and severity of risks arising from an emergency
- Decisions should be based on information about possible future events.

The Building Act also governs any building assessment operation when no state of emergency, transition period or designation is in effect. The Act provides limited powers for territorial authorities to inspect buildings, determine whether a building is dangerous, earthquake prone or insanitary, and take appropriate measures.

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



PART B

Preparing for and managing buildings in an emergency

Section 4: Readiness (p25)

Readiness steps for territorial authorities including developing a building assessment plan, identifying key people, and checking training and resources

Section 5: Response (p51)

Establishing and managing a rapid building assessment operation or carrying out other building checks, as appropriate

Placarding, cordoning, stabilisation/demolition as necessary

Seeking further information from building owners as necessary

Section 6: Recovery and risk reduction (p86)

Monitoring damaged buildings, repairs, removing placards/ cordons

Learning from the event and implementing changes

Section 4: Readiness – prepare for managing buildings in an emergency

This section is for territorial authorities to help you get – and stay – ready for managing buildings in an emergency.

It contains readiness steps to help you develop a building assessment plan, identify key people, check these people have the right training, and assemble resources.

Helpful tools include:

- readiness checklist – Appendix 2
- equipment and resource checklists – Appendix 3
- memorandum of understanding for engaging rapid building assessors – Appendix 7.

Readiness – what is required

Under the National CDEM Plan each 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”.

National CDEM Plan, section 79(3)(c)

Steps to achieve this

To prepare for managing buildings in an emergency, territorial authorities need to:

- have a plan for rapid building assessments that links with their CDEM Group plan
- identify key staff and assessors, and make sure they have the right training
- have resources at the ready, including up-to-date building information and field maps.

MBIE supports this by:

- developing and maintaining a three-tier system of people to help manage and assess buildings in emergencies – this includes engineers, building officials and architects
- keeping an up-to-date register of rapid building assessors that territorial authorities can access
- coordinating skills training for Tier 1 and Tier 2, and awareness training for Tier 3
- providing relevant guidance and resources, including field guides for different types of emergency (earthquake, flood, geotechnical) and standard placards.

Preparing well makes sure the right people and resources are available, and procedures are in place, to meet the objective of managing buildings in an emergency. This is described in the National CDEM Plan (section 77) as to:

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

Key point

Territorial authorities should consult the CDEM Group Plan and subordinate local plans when preparing their own plans for building management in emergencies. Good communication among all parties involved in emergency planning – especially operations, logistics and welfare – is essential to make sure these are aligned.

Key steps to readiness follow:

Readiness step	Reasons
1. Understand the legal context	Makes sure legal obligations and requirements are understood
2. Develop an operating structure	Makes sure key staff know what they need to do, and are trained and capable of fulfilling roles
3. Identify an operational base and other facilities	Ensures a more immediate response Identifies alternative locations for resilience
4. Gather information about buildings, critical infrastructure and the environment	Supports planning and operational activities – including development of the technology platform to enable access to property information and recording field data
5. Develop a building assessment plan	Supports planning and operational activities Identifies what policy decisions are needed upfront
6. Gather resources	Makes sure the response is adequately resourced and equipped Makes sure essential resources can be easily accessed
7. Identify people with specialist skills	Makes sure there is a process for assembling the people needed in a building assessment operation (local people are identified, and there is a plan for mobilising additional people from outside the region if required)

4.1 Readiness step one: understand the legal context

Make sure key people within the territorial authority have a practical understanding of the core legislation that helps govern actions during an emergency response. This includes:

- Civil Defence Emergency Management Act 2002
- National Civil Defence Emergency Management Plan Order 2015 and the Guide to the National CDEM Plan
- Building Act 2004 (including as amended by the Building Amendment Act 2019)
- Local Government Act 2002
- Health and Safety at Work Act 2015
- Fire and Emergency New Zealand Act 2017
- Fire Safety and Evacuation of Buildings Regulations 2006
- Heritage New Zealand Pouhere Taonga Act 2014
- Resource Management Act 1991.

Refer to section 3 and Appendix 1 for details.

New Zealand Police and New Zealand Defence Force may be tasked by the Controller to assist in managing access to buildings and areas, depending on the type and extent of the emergency.

4.1.1 States of emergency, transition periods, and designated areas

Key territorial authority officials need a practical understanding of the different powers and decision-making responsibilities in relation to states of emergency, transition periods and designated areas.

Declaring a **state of emergency** following an emergency event allows Controllers (and their delegates) to direct and coordinate personnel, material and other resources, and activates emergency powers under the CDEM Act that are used to ensure an effective and timely response. A state of emergency expires after 7 days unless extended or terminated sooner.

Notifying a **transition period** at the end of a state of emergency supports a transition from the response into the initial recovery phase. Recovery Managers (and their delegates) have similar powers under the CDEM Act during a transition period as those provided to Controllers during a state of emergency. A transition period expires after 28 days (local transition period) or 90 days (national transition period) unless extended or terminated sooner.

Designating an area activates powers under the Building Act for managing buildings affected by an emergency event, from the initial response right through to recovery. A designation can be in place at the same time as a state of emergency or transition period, or can be a standalone measure. Designations expire after 3 years unless extended or terminated sooner, which provides territorial authorities with sufficient time to manage buildings effectively throughout the recovery phase.

All designations must be immediately published on a publicly accessible and free-to-access website or, if this is not possible, through other appropriate means. The notice must include details of the designated area, the emergency and the date/time the designation was made.

4.1.1.1 Decision-making

Following an emergency event, a person authorised by the regional CDEM Group (or the local mayor) may declare a local state of emergency or notify a local transition period under the CDEM Act.

The Civil Defence Minister may also declare a local state of emergency or that a state of national emergency exists over all or part of New Zealand, or may give notice of a local or national transition period.

When a state of emergency or transition period has been declared, the relevant CDEM decision-maker has the authority to designate an area (or part of an area) for building emergency management under the Building Act.

If no state of emergency or transition period is in force, the relevant territorial authority (or authorities) may designate an area (or part of an area) with the approval of the Minister for Building and Construction, or the Minister can designate an area on their own initiative.

Key point

Each territorial authority should have a delegations framework in place that makes it clear who is authorised to request Ministerial approval for a designation when there is no state of emergency or transition period in effect.

MBIE is responsible for liaising with the Minister on designation requests on behalf of territorial authorities.

The relevant territorial authority official should in the first instance phone the MBIE emergency contact number to give advance notice of the designation request. They should then complete the approval template available from www.building.govt.nz⁴ and send it to BuildingActEmergencyManagement@mbie.govt.nz.

The template has been designed to ensure the Minister has sufficient information to quickly determine whether the designation is in the public interest and necessary to protect people, buildings, public thoroughfares or critical infrastructure.

4.1.1.2 Reviewing, extending and terminating designations

Any designation of an area for building emergency management must be reviewed at least every 90 days, and will expire after 3 years unless terminated sooner or extended.

If the designation was made during a state of emergency or transition period that continues to be force, the review is carried out by the CDEM decision-maker who made the designation.

If no state of emergency or transition period is in force, the review is carried out by the relevant territorial authority, or by the Minister for Building and Construction if the designation was initiated by the Minister.

The person carrying out the review must consider whether the designation is still in the public interest and necessary to protect people, buildings, public thoroughfares or critical infrastructure. They must also take account of:

- the scale and degree of the emergency and its effects on buildings in the relevant area
- the likelihood of a further emergency or other relevant event that could increase the risks posed by buildings or land in the area
- the principle that it is preferable for risks to be managed without the use of the powers provided by a designation.

Following the review, the designation may continue in force or be extended, or it may be terminated prior to the scheduled expiry date if it is no longer in the public interest. An extension may relate to all or part of the designated area, but must be for no more than 3 years and can be made only once.

⁴ <https://www.building.govt.nz/assets/Uploads/managing-buildings/territorial-authority-request-for-approval-to-designate-an-area.pdf>

The Minister must approve any extensions or terminations of a designation where there is no state of emergency or transition period in effect at the time of the review.

All reviews, extensions and terminations of designations must be immediately published on a publicly accessible and free-to-access website or, if this is not possible, through other appropriate means. The notice must include details of the designated area, the emergency and the date/time the designation was made.

4.1.1.3 Powers during a designation

The Building Act provides a range of powers to the 'responsible person' whenever an area is designated for building emergency management.

Key point

CDEM Act powers must not be used to manage affected buildings once a designation is in place, unless the responsible person considers this is needed to remove or reduce risks that cannot be addressed using Building Act powers.

If a state of emergency or transition period is also in force, the Controller/Recovery Manager (and anyone acting under their authority) is considered to be the responsible person. If neither a state of emergency nor transition period is in force, the territorial authority is the responsible person under the Building Act.

Key point

The CDEM group and territorial authority should make sure they have delegations frameworks in place to ensure the Building Response Manager and any other relevant officials are authorised to exercise building emergency management powers under either scenario.

Within a designated area, a responsible person (and their delegates) has the power to:

- evacuate buildings within the area if necessary to prevent the death or injury of any person
- carry out rapid building assessments
- place notices or placards restricting the use of buildings to remove or reduce risks
- put in place measures such as hoardings or fences to protect buildings or keep people at a safe distance
- direct building owners to provide information such as a Detailed Damage Assessment (see section 6.2)
- carry out or require works to remove or reduce other risks where measures put in place to keep people safe or protect buildings are causing ongoing disruption to a public thoroughfare, the use of another building or critical infrastructure (see section 6.3)
- require works to make buildings suitable for long-term use or occupation (see section 6.4).

When exercising these powers, the responsible person must have regard to the following principles:

- The principal consideration is the protection of human life and safety
- All actions taken should be proportionate to the risks being managed
- Any restrictions on using and occupying properties should be as minimal as possible and for no longer than necessary
- Decisions should be based on up-to-date information, including about the likelihood and likely impact of any further events
- The general principles set out in section 4 of the Building Act.

Section 390 of the Building Act provides that a responsible person, and any person engaged or authorised by a responsible person to exercise building emergency management powers during a designation, is protected from having a civil claim brought against them for any act or omission carried out in good faith.

4.1.2 Secured buildings

Secured buildings include buildings in defence areas, and buildings (or parts of buildings) used by the New Zealand Defence Force, intelligence and security agencies, or the Ministry of Foreign Affairs and Trade.

Where a secured building is located within a designated area, all building emergency management functions must be carried out in accordance with any instructions given by the officer in charge of the building. See section 133BB of the Building Act for the definition of 'officer in charge'.

For example, the officer in charge may choose to supervise a rapid building assessment or the completion of urgent works, to ensure the security of sensitive information.

4.1.3 Dangerous dams and dangerous, insanitary or earthquake-prone buildings

An area designated for building emergency management under the Building Act may contain dangerous dams or buildings known to be dangerous, insanitary or earthquake-prone. The territorial authority may have taken steps to manage these dams and buildings, prior to the emergency event, through the relevant provisions of the Building Act.

Where a designation is in place, sections 124(2)(a),(b),(c) and (d) and section 129(2) of the Building Act continue to apply for the purpose of any actions taken prior to the designation. These include::

- notices warning people to not approach
- hoardings or fences put up to prevent people from approaching
- notices requiring work to be carried out to reduce or remove a danger or prevent a building from remaining in an insanitary condition
- notices to restrict entry for particular purposes or particular persons
- actions taken under a warrant issued by the territorial authority's chief executive to avoid immediate danger or to fix insanitary conditions

- work to a dam carried out by a regional authority under the authority of a District Court order
- actions taken in relation to a dam under a warrant issued by the regional authority to remove an immediate danger to the safety of persons, property or the environment.

In addition, a responsible person may bring forward:

- any pre-existing due date for the owner of an earthquake-prone building to provide an assessment or other information, where the responsible person believes the earlier due date is reasonably necessary to determine the risks posed by the building and the works needed to reduce or remove them
- any pre-existing deadline for completing seismic work, where the responsible person believes the earlier deadline is reasonably necessary to remove or reduce the risks of injury or death posed by a building.

The building emergency management provisions of the Building Act take precedence over the provisions of the Act relating to dangerous dams and dangerous, affected, insanitary and earthquake-prone buildings, where there is any inconsistency between them.

4.1.4 Offences, determinations and appeals during a designation

Offences

The Building Act sets out a number of offences for non-compliance with the use of powers by a responsible person when an area has been designated for building emergency management.

The following are offences subject to a fine of up to \$5,000 for individuals or up to \$50,000 for body corporates:

- Intentional failure to comply with an evacuation order without a reasonable excuse
- Intentional bypass of, or interference with, measures to protect buildings or keep people at a safe distance, or inciting another person to do so
- Intentional damage to, or interference with, a notice or placard
- Intentional failure to comply with a direction to provide information

The following are offences subject to a fine of up to \$200,000:

- Intentional occupation of a building in breach of a notice or placard, or permitting another person to do so
- Intentional failure to carry out 'other works' or 'long-term' works as directed by a responsible person

A responsible person has 6 months to file a charging document from the date on which the offence first became known or should have become known.

Determinations

A building owner or other affected party may apply to MBIE for a determination on any decision by a responsible person about:

- measures to protect buildings or keep people at a safe distance
- notices or placards restricting the use of buildings
- ‘other works’ to remove or reduce risks
- works to make buildings suitable for long-term use or occupation.

However, an application for a determination cannot be made if the responsible person was the Minister for Building and Construction or a territorial authority acting under the direction of the Minister.

Decisions on works to remove or reduce risks, and on works to make buildings suitable for long-term use or occupation, are **suspended** until MBIE has made a determination.

Decisions in relation to measures to protect buildings or keep people at a safe distance, or in relation to any notices or placards restricting the use of buildings, **remain in force** until a determination has been made.

An application for a determination must be submitted to MBIE on the form available from www.building.govt.nz ⁵.

An application will typically be determined within 15 working days if received within the first 6 months of the designation. If the application is received after this time or MBIE considers the subject matter is complex or relevant to other buildings in a designated area, an application will typically be determined within 60 working days.

Appeals

A person who disagrees with the outcome of a determination may lodge an appeal with the District Court within 15 working days.

The Court may confirm, reverse, or modify the determination, refer the matter back to MBIE’s chief executive, or make any determination MBIE could have made in respect of the matter.

A building or land owner who is directed by a responsible person to provide information may also appeal to the District Court within 10 working days of receiving the direction, if they consider it was unreasonable.

In the case of an appeal about a direction to provide information, the scope of the appeal is limited to considering relief for the reasonable costs of complying with the direction.

⁵ <https://www.building.govt.nz/resolving-problems/resolution-options/determinations/>

4.2 Readiness step two: develop an operating structure

4.2.1 Building Response Manager takes the lead

A Building Response Manager should lead the building assessment operation in an emergency on behalf of the territorial authority. The Building Response Manager will typically be the territorial authority's Building Control Manager. He or she will report to either the Controller or the Operations Manager of the Emergency Operations Centre (EOC).

Figure 4-1 shows an example of a recommended reporting structure, based on the standard Coordinated Incident Management System (CIMS) structure. It shows the relationship between the CIMS functions and the territorial authority's Building Response Manager.

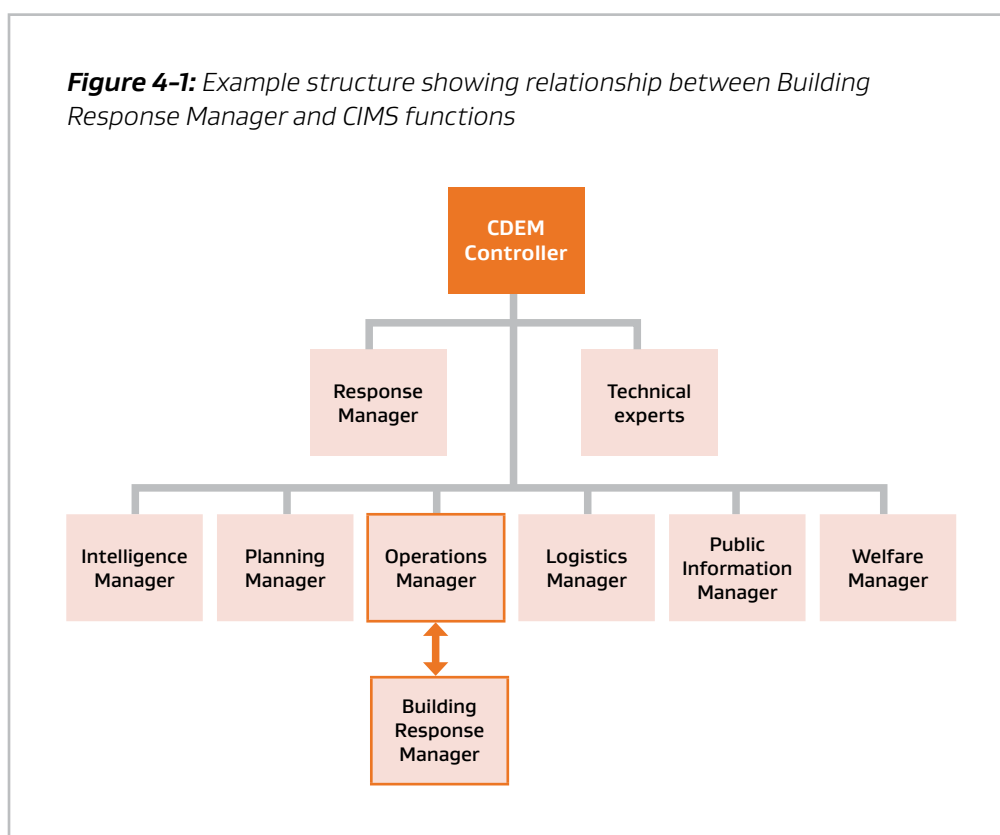
Key point

New Zealand uses CIMS⁶ to manage emergencies. Its purpose is to achieve effective coordinated incident management across responding agencies by:

- establishing common structures, functions and terminology used by agencies in incident management; yet within a framework that is flexible, modular and scalable so that it can be tailored to circumstances specific to any level or type of incident
- enabling agencies to develop their own processes, procedures and training for the execution of CIMS.

6 <http://www.civildefence.govt.nz/assets/Uploads/publications/CIMS-2nd-edition.pdf>

Figure 4-1: Example structure showing relationship between Building Response Manager and CIMS functions



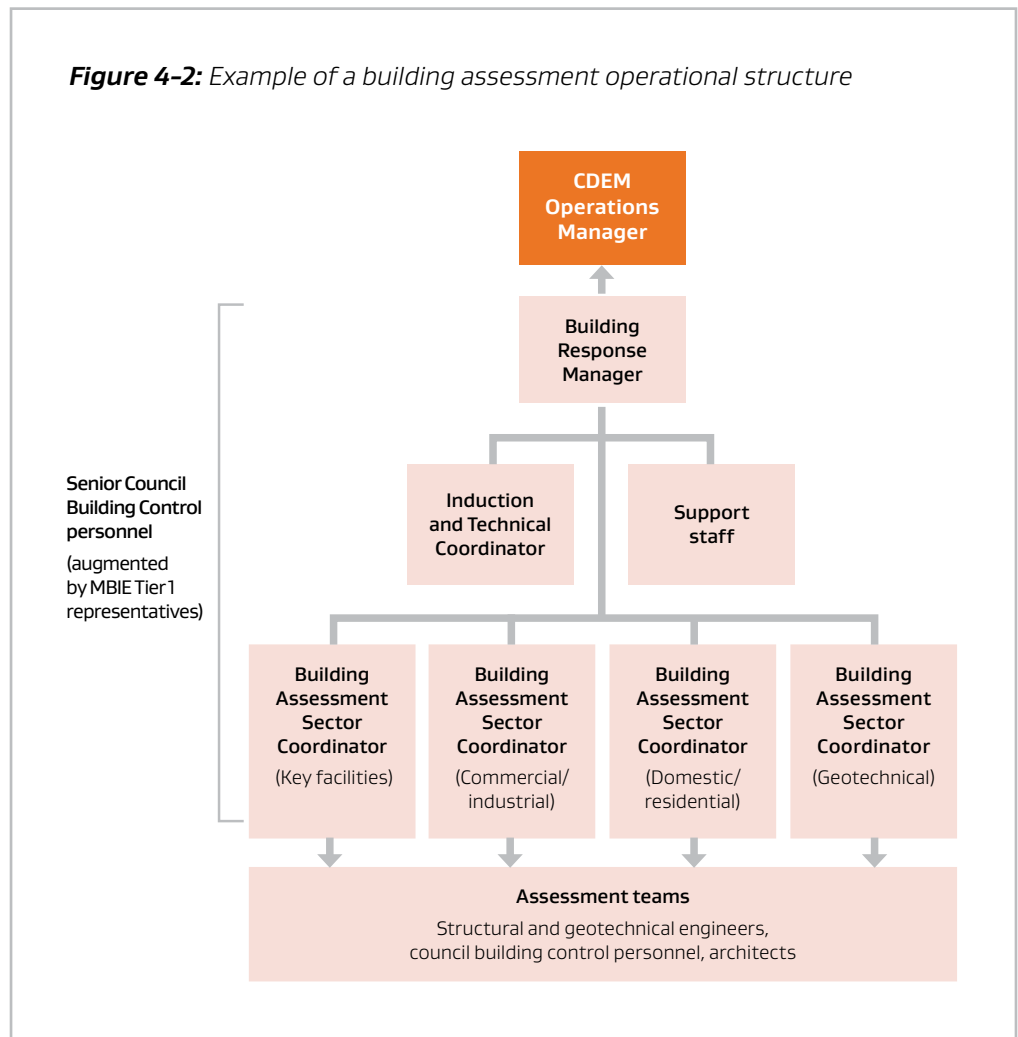
4.2.2 Keep it flexible

Plan a Building Management operating structure and outline key roles to be ready when an emergency occurs. This structure will depend upon the size and scale of the emergency response operation, in line with the CIMS principle of being scalable and modular.

Figure 4-2 shows an example structure where the scale and complexity of the emergency require subdivision of technical roles. This is generic guidance only: the actual operating structure will need to be altered to suit the particular event.

Functions within the EOC may be able to support the Building Management sub-function (eg the Planning, Intelligence and Logistics functions). The Building Management sub-function should coordinate closely with other CDEM functions, such as Public Information Management and the Lifeline Utilities Coordinator (eg to restore lifeline utilities that are co-located with, or compromised by, damaged buildings).

Figure 4-2: Example of a building assessment operational structure



4.2.3 Define roles and responsibilities

Develop position descriptions for the key roles that set out their responsibilities.

Table 4-1 gives an example of the Building Response Manager’s main operational responsibilities.

Table 4-1: Building Response Manager responsibilities

Responsibility	Description and/or rationale
Actively communicate with the Controller	Brief and receive information from the EOC to ensure a coordinated emergency response.
Establish and normalise response routine, shift work and handover protocol	In an emergency, staff may be reluctant to stop working. Set a daily routine that normalises shift work and a handover protocol to prevent staff burnout.
Chair team meetings	This allows for overall building management and coordination.
Manage risk	Identify, assess and prioritise any risk that the building assessment operation is dealing with, or that may pose wider implications for managing the response. Communicate these to the Operations Manager.
Manage conflict and stress within the organisation	This is necessary because a degree of conflict is inevitable: people have varying perspectives and experience.
Manage communications	Make sure the field data is collected and presented in a form that supports further assessment and the wider incident management. Establish a daily assessor briefing and debriefing process. Ensure that the correct authoritative information is available to the person in charge of public information management.
Establish a rapid building assessment team	Understand the contracting arrangements for volunteers and contractors. Know how to work with MBIE to expand the resource if a greater response is required.

4.2.4 Identify people (and alternates) for key roles

Identify and train primaries and alternates for all roles.

As it is crucial that you can staff the building assessment operation in an emergency:

- establish a contact system for key people in advance, such as a telephone tree
- review assigned staff every six months and update their contact details
- liaise with neighbouring territorial authorities in case you need to call on extra help.

Table 4-2 describes the people needed for a rapid building assessment team and where to find them (also refer to Figure 4-2 earlier).

Field personnel who will be deployed with assessment teams – team leaders and team members who will carry out rapid building assessments – should be selected from the MBIE register of trained rapid building assessors. Step seven below explains how to identify people with specialist skills and make sure they have the right training.

Table 4-2: Building assessment management team and sources

Role	Function	Source	Skills
Building Response Manager or Controller (and a deputy manager)	Lead and manage the building assessment response	Local or other council staff, consultancy, or from the MBIE register of rapid building assessors	Senior building control personnel trained in Tier 1 or 2 rapid building assessment
Induction and technical coordinators/advisers: <ul style="list-style-type: none"> • technical and process advisor • regulatory process advisor 	<ul style="list-style-type: none"> • Coordination, review and support • Liaison with external agencies relating to building, performance and assessment based on scope 	Local council staff in conjunction with MBIE	Operational experience and trained in Tier 1 or 2 rapid building assessment
Hazard advisor (for example, seismologist for earthquake)	Provide specialist technical advice about the hazard	GNS Science or subject matter expert (via the CDEM Group ECC)	
Sector coordinators: <ul style="list-style-type: none"> • key/essential facilities • domestic/residential • commercial/industrial • geotechnical as appropriate (area wide and site specific) 	Manage teams of specialist assessors There may also be specialist coordinators for other functions, such as cordoning and barricading	Local or regional council staff and then the MBIE register	Senior building control or engineering personnel trained in Tier 2 rapid building assessment
Rapid building assessors	Rapid assessment of buildings	MBIE register of trained rapid building assessors from the local area and from other areas	Engineers, building control staff, and architects trained in Tier 2 (lead) or Tier 3 (support) rapid building assessment
Technical staff not doing rapid building assessments, but supporting technical decisions	Additional expertise for specific engineering or other technical input	Structural engineers and heritage professionals	Structural engineers and heritage professionals for shoring, barricading and remediation advice
		Geotechnical engineers	Geotechnical specialists for land stability advice

Information management	Transferring field data into appropriate database, either manually or digitally	Council staff	Linking event data with territorial authority information systems with a focus on map generation
Support staff	Administrative tasks IT support if appropriate	Council staff or contractor	Ability to find way around property records, support communication or field data collation.

4.3 Readiness step three: identify an operational base and other facilities

4.3.1 Choose a suitable location for coordinating the building assessments

Identify the most suitable place in your district for coordinating building assessments and processing information.

This should be a central building that you expect to be usable after an emergency. It should have suitable rooms and spaces for all operations, including areas for briefing and debriefing large groups of field staff. It must have access for vehicles and supplies.

This may be in the same building as the EOC if there are facilities to accommodate both functions. Ideally, both the EOC and the building assessment coordination centre will share communications that link back to the territorial authority's information management systems.

4.3.2 Identify an alternate site

Identify a second building as an alternative building assessment coordination centre in case your first building choice cannot be used. Suitable sites should be evaluated on a case-by-case basis.

Key point

Following a seismic event certain types of building (which may include territorial authority office buildings) may be unsuitable as building assessment coordination centres. These could include multi-storey buildings, as necessary services such as lifts or water may not be available.

4.3.3 Establish an assembly point

Choose an assembly point that can be used immediately following an emergency. This might also be the coordination centre. Make sure everyone who will be part of the building assessment operation knows where it is.

4.4 Readiness step four: gather information about buildings, critical infrastructure and the environment

4.4.1 Provide a suitable technology platform

Establish a system that provides remote access to relevant building information in the territorial authority's files. This should also allow assessors and others to enter field data once an assessment operation is underway.

This system should be appropriate for the scale of the local built environment. For example, a small territorial authority may decide that a paper-based system and slower information gathering is suitable. A larger territorial authority may want to support assessors in the field by making its property information accessible through mobile devices.

When deciding the type of IT system or other interface to provide, consider:

- the potential for a large building assessment operation because of a known hazard/scenario
- the usefulness of this system for other purposes
- its capability to provide a reliable information source (for building address details, building type, building use and owner details)
- ease of access to all information collected during the assessment operation
- the ability to update the authority's database when buildings are repaired, shored up, cordoned, strengthened or demolished.

It is important to consider any privacy issues that may arise from storing and distributing this information. Check your authority's information management policy for guidance.

Consider using a rapid building assessment app

Instead of completing printed assessment forms (available at www.building.govt.nz⁷) assessors could use an app on a tablet or mobile phone to record assessment details while they are in the field. This information is recorded and transmitted in real time if power and communications systems are operating. Otherwise, it can be uploaded at the end of each day.

⁷ <https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/>

Key point:

The increasing use of cloud-based digital storage and the ability to access this from remote centres offers options for back-up – which can be useful in case computer/telecommunication systems and workplaces are unavailable in an emergency – and buddying with a remote territorial authority to provide emergency operational support.

This also increases the attractiveness of moving to an IT based system that allows rapid building assessors to enter assessment details in the field via an app. This saves laborious data entry later in the day, provides higher quality data, and supports faster decision making in an emergency.

4.4.2 Keep detailed building information

Keep an inventory of building information that addresses all aspects of the area's building stock that could be relevant for completing building assessments. This includes the location of key facilities, and any earthquake-prone buildings or heritage-listed buildings (discussed below).

A detailed inventory will help you determine the best match of skills and the number of people needed to complete rapid building assessments when an emergency strikes. Documenting any known vulnerabilities will also help you evaluate any damage more effectively and direct efforts where they are most needed.

Pre-event LiDAR datasets will be very valuable to understand ground differential movement when compared against post-event LiDAR. Liaise with Land Information New Zealand (LINZ) for national coverage.

Information sources include:

- building compliance schedules and annual warrant of fitness information, for base data about commercial buildings
- the national EPB register for information on earthquake-prone buildings and their ratings, at <https://epbr.building.govt.nz>
- Heritage New Zealand Pouhere Taonga's website (www.heritage.org.nz/the-list) for a list of heritage buildings – use the website's property search feature.

Identify key buildings that may need early assessment

Your inventory should also identify buildings that may be a priority for assessment. These include:

- buildings that provide essential community services; eg hospitals, medical centres, emergency services buildings (fire, police, ambulance), community facilities (Civil Defence Centres⁸, supermarkets)
- lifeline utility infrastructure (water supply buildings, petrol stations, electricity substations, ports, airports, and telecommunication facilities).

To support the building assessment operation, record the location and relevant contact details for each building. The CDEM Group Lifeline Utility Coordinator should be able to provide contact details.

Key point

The owners or operators of facilities needing priority assessment are responsible for arranging their own assessment following an emergency. This is usually done through a priority response agreement with professional parties, such as local engineers and architects, who are trained in rapid building assessments. Note these agreements in your inventory. Professionals contracted to complete assessments should be advised to use the standard assessment forms (available at www.building.govt.nz⁹) and give the completed forms to the territorial authority.

Identify potential indicator buildings

Indicator buildings are a set of buildings that are reassessed regularly during an emergency response to check for any further damage; eg from large aftershocks following a major earthquake. This systematic monitoring can help you decide whether to review, or even restart, a rapid building assessment operation.

While the set of indicator buildings is not chosen until after the first day of assessments, there are some building types you are likely to include and can identify ahead of time in your database. Using buildings with detailed seismic assessments and building plans will also be helpful.

Indicator buildings are discussed further in section 5.9.3.

⁸ Includes buildings that can be used for short term emergency shelter

⁹ <https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/>

Use of indicator buildings in previous earthquakes

An indicator building procedure was developed during the 2010-11 Canterbury earthquakes to guide the rapid assessment operation after a significant aftershock.

Indicator buildings were also identified in Wellington following the 2016 Hurunui/Kaikōura earthquake, reducing the amount of rapid assessment required. This was possible because the earthquake shaking frequency affected one specific group of buildings and quickly established the characteristics that made this smaller set of buildings more prone to damage. This reduced the need for a large team of building assessors, and instead moved the operation on to Detailed Damage Evaluations (or Targeted Damage Evaluations where appropriate) arranged by the building owners.

4.5 Readiness step five: develop a building assessment plan

4.5.1 Align with the CDEM Group Plan

The designated Building Response Manager should lead the development of a building assessment plan (refer Appendix 2 for a checklist). This should be done together with the CDEM Group and CDEM team at the territorial authority to identify interface points such as resourcing (planned transport and operating space), information management, and communication/computer equipment needs.

The territorial authority's building assessment plan (the plan) should align with the CDEM Group Plan and related local civil defence emergency management plans and procedures, but not duplicate them.

Key point

A well-considered, pre-prepared plan will help when mobilising and deploying people in an emergency. It also makes sure building assessment teams are effective and efficient. The planning process helps to build strong relationships in readiness that are valuable in the response.

The plan should be as flexible as possible to respond to:

- unexpected distribution of building damage
- varying degrees of geotechnical impact
- needs of the emergency services, such as Fire and Emergency New Zealand and the New Zealand Police
- requests from building owners and occupiers.

When developing the plan, use the information from Step four to help set priorities for early assessment. As discussed in that step, key buildings and infrastructure should be the first priority.

If a government agency, private lifeline utility or key infrastructure operator does not have suitable arrangements in place, the territorial authority's plan should provide for rapid building assessments of these facilities. Include council-owned facilities in the plan.

Also consider how to collect information that could help build resilience against future emergencies. For example, understanding how buildings perform in an event could help inform future building policy decisions such as zoning. Information from rapid building assessments and Detailed Damage Evaluations will also support the authority's longer-term resilience objectives.

The plan should address related follow-up and supporting activities, such as identifying when and how to communicate with building owners and the community about building use and management.

4.5.2 Test the assessment plan by modelling emergency scenarios

Test your building assessment plan and supporting resources by modelling one or more emergency scenarios (such as flooding, tsunamis, or earthquake). This will help with estimating the severity and possible extent and location of building damage. Use this information to develop your requirements for resources and operational planning.

Ideally, these scenarios should cover small, medium and large scale events. Exercises should draw on work completed on hazard risk awareness.

It is important to understand local geotechnical risks associated with weather-related and seismic hazards. Reliable information is needed to support the predictive capability of scenario modelling. The coordinated collection of accurate building infrastructure and geotechnical, geomorphological, and Light Detection and Ranging (LiDAR) information will support the modelling of likely scenarios. GNS Science or NIWA may be useful sources for information (refer to www.gns.cri.nz and www.niwa.co.nz).

4.6 Readiness step six: gather resources

4.6.1 Assemble equipment and resources

Appendix 3 has checklists for resourcing the operations centre, equipment to supply to assessment teams, and equipment that building assessors should provide themselves. The field guides also contain equipment checklists for assessors.

When preparing maps, create block-by-block street maps. Mark aerial photographs of each block with:

- priority areas based on expected damage for different types and scales of emergency that might occur – eg earthquakes, flooding, tidal inundation, volcanic eruption
- key buildings and infrastructure
- official street identification and legal descriptions for each block
- other information that may be relevant to an emergency response – eg heritage listings, known earthquake-prone structures, flood-prone and low lying areas, known landslips and areas of instability (debris flows, cliff collapse, boulder roll).

For commercial areas, store single building aerial photographs with the map for the relevant block.

Use dedicated, recognisable and easily accessible cabinets to store copies of these maps, hazard map checklists, response plans, lists, field guides, placards, other printed building reference information, and all assessment equipment. Set up a system of updates so mapping, photographic and other information remains current.

Also keep information electronically, and make sure you can access this in an emergency by keeping copies on:

- the territorial authority's computer network, and
- other storage media such as external storage devices, optical disks, or cloud storage services.

Key point

When deciding how many placards to print ahead, bear in mind that you may need to amend these in an emergency to include specific information about the event. They should also include an appropriate point of contact for the territorial authority, such as a 24/7 call centre.

4.6.2 Prepare information ahead where possible

Consider pre-preparing some hard copy factsheets for building owners and the public following an emergency. Check MBIE and National Emergency Management Agency (NEMA) websites for information that is already available.

MBIE's Building Performance website (www.building.govt.nz¹⁰) provides information for building owners and managers.

NEMA's websites www.civildefence.govt.nz and www.happens.nz have useful public information resources, including *Working from the same page: consistent messages for CDEM and Response Management: Director's Guideline for CDEM Group and Local Controllers*. These documents are intended to help those responsible for developing and providing CDEM information to the general public. They provide nationally agreed information on:

- specific hazards and their impact on the community, and
- the actions that individuals, families, and communities can take to reduce, prepare for, and protect themselves from, the effects of major emergencies.

Refer to section 5.10 for more about managing communications during the emergency response.

4.6.3 Consider transport and communications

Determine transport needs to get people to and around operational areas. Vehicles must be able to navigate damaged roads. It is likely that many council pool vehicles will be required for other emergency response tasks, such as monitoring hazards and maintaining emergency communications. Consider how to get hold of additional 4x4 vehicles if needed. Helicopters may be required depending on access constraints and terrain.

Also make sure you have adequate means of communication, such as temporary telephones or radios.

4.6.4 Consider accommodation and support for people outside the district

If you have to bring in rapid building assessors from outside your district they will have extra requirements for accommodation, meals and wellbeing. Establish a policy for this in coordination with the logistics function lead that can be easily implemented following an emergency.

¹⁰ <https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/information-for-building-owners/>

4.6.5 Maintain key alliances and understand roles played by others

The effectiveness of the building management response will largely depend on mutual agreement and cooperation among all affected parties. Maintain good relationships with key people in all the agencies and organisations that need to work together during and after an event. This will minimise inefficiencies; especially any unnecessary duplication of technical and administrative resources.

Similarly, where possible, collect raw data that is useful to multiple agencies. Engage early with the lifeline utilities providers.

Other interested stakeholders include:

- MBIE's Temporary Accommodation Service, for emergency housing
- Fire and Emergency New Zealand, which undertakes rapid impact assessments but not rapid building assessments
- GNS Science, NIWA and academics working in the hazard area, for assessing aftershock and tsunami risk and for collecting scientific data
- Heritage New Zealand Pouhere Taonga, for advice on any damaged heritage buildings or sites
- Infrastructure representatives such as NZTA and KiwiRail, who will be assessing infrastructure damage
- building insurers and the Earthquake Commission's (EQC's) assessors and their advisors, who will be looking at land and building damage for insurance compensation/repair.

All may play a crucial role in the recovery phase.

4.7 Readiness step seven: identify people with specialist skills

4.7.1 Check for trained assessors in your area

MBIE maintains a three-tiered capability system of people trained in rapid building assessment (refer Figure 2-2 in section 2):

- **Tier 1:** national resources capable of leading an assessment operation. These people should be used if complex building damage is suspected or evident, or if the rapid building assessment management needs reinforcing.

- **Tier 2:** these people should be the first ones called on to help with a large scale building assessment operation. They include building professionals such as senior building officials, engineers (structural and geotechnical) and some architects. Tier 2 assessors are trained to lead building assessment teams in the field and are familiar with the field guides and related resources (eg placards, checklists, and health and safety information).
- **Tier 3:** these people should be used to support Tier 2 in the field if necessary. This tier receives general awareness training. It also includes building professionals.

Key point

Training promotes consistency by making sure that building assessors work to established criteria and procedures. This reduces the induction time before building assessments can begin in an emergency.

Most emergencies for which building assessors are needed will be local or regional events. During a state of emergency or transition period MBIE may support the Controller using the national register to carry out resource availability/skill matching and provide contact details through the EOC. The mechanism for getting assessor support in these circumstances needs to be established at regional and local level.

Help MBIE to maintain national capability by checking there are enough assessors in your area with Tier 2 rapid building assessment training to initiate local assessments. MBIE keeps a national register that includes details of these assessors' location, level of training and specialist expertise (eg in structural engineering) to help you check this. Where appropriate, encourage more of your staff to complete this training.

Note that although MBIE has registered these assessors, in an emergency they will need to be:

- mobilised and warranted by the territorial authority (by having them sign a memorandum of understanding or contract)
- deployed through the Building Response Manager to carry out assessments.

Appendix 7 includes a memorandum of understanding for building assessors. This addresses the liability issues for volunteers involved in rapid building assessments.

Contact MBIE at buildingactemergencymanagement@mbie.govt.nz regarding the national register of assessors and further training.

Key point

In areas where geotechnical risk is prominent, the territorial authority should also hold discussions on mobilisation mechanisms and coordination structures with local geotechnical engineering representatives.

4.7.2 Getting assessors from outside the district

A major event can occur across multiple districts and lead to more than one state of local emergency, or even a state of national emergency. If this occurs, the territorial authorities in the affected districts are still expected to organise rapid building assessors using their pre-existing arrangements and resources ahead of national coordination led by the National Controller through the National Crisis Management Centre (NCMC). Support will be provided as needs are understood, available external resource is identified, and logistics to deploy them are worked through.

A major event may require many trained building assessors. This is likely to involve mobilising all the trained building assessors available locally as well as arranging for assessors from outside the affected area. If requested by a CDEM Group Controller, the National Controller, in partnership with MBIE, will facilitate out-of-region mobilisation of building assessors.

This also applies if a CDEM Group were to request additional support, via the NCMC, in any lesser scale emergency and whether or not a state of local emergency is in force. Similar requests can also be made to NEMA (or the National Recovery Manager) by a Local Recovery Manager during a transition period, or by the territorial authority if there is a designation but no state of emergency or transition period in effect.

4.7.3 Keep assessors upskilled

Assessors need to be given the opportunity to consolidate and maintain their skills after completing the initial MBIE-led building assessment training. Suitable activities could include completing further training, attending seminars, participating in exercises, and helping other territorial authorities respond to emergencies. Supporting other territorial authorities in an emergency provides staff with experience and maintains their interest.

4.7.4 Engage with consulting engineers

As well as training staff, actively engage with local consulting engineers contracted to your territorial authority, or ones you work closely with on an ongoing basis, to help prepare for emergencies. This is particularly important for geotechnical matters, where local knowledge is essential. The three relevant technical societies (NZSEE, SESOC and NZGS) and the professional body Engineering New Zealand (ENZ) can assist.

4.7.5 Consider any specialist building knowledge that may be required

As well as making contingency plans to mobilise registered building assessors, consider the nature of the district's building stock and whether additional specialist building knowledge could be needed. For example, this could be necessary for high-rise buildings, special infrastructure such as dams, or if there are particular geotechnical considerations in your area. There may be suitable specialists locally or you may need to enlist outside expertise.

4.7.6 Consider contracting for emergency response services

Territorial authorities typically maintain a list of civil works/building contractors for general purposes. These contractors may be needed for emergency building repairs (such as cordoning, shoring, or securing buildings, or making them weathertight), or demolition. Consider including the provision of emergency response services in existing service and maintenance contracts.

You may also need to contract to:

- provide storage locations for debris arising from demolition
- secure storage for assets that may be vulnerable as a result of damaged buildings or demolition
- secure areas for debris subject to forensic testing and investigation.

Work closely with the Lifeline Utility Coordinator in the local CDEM Group, who will maintain links with lifeline utilities servicing the local area.

4.7.7 Consider availability of legal, financial, procurement and communications advice

A number of additional functions are important for supporting the response to an emergency, as listed below. The building assessment plan should address how and who to call on for support for each of these functions when an emergency occurs, and also for preparing processes beforehand.

- Procurement – it will be necessary to enter into contracts during the emergency response; for example, with assessors who are needed for more than three days. Have template contracts available that comply with council policies.
- Legal – consider whether there are suitably experienced in-house resources or whether you need to have an arrangement with an external legal firm.
- Financial – consider how costs incurred during the emergency response will be accounted for.
- Communications – check if there are suitably experienced in-house resources. (Refer to the previous readiness step, section 4.6.2, and to the communications response, section 5.10, for what is likely to be required.)

Section 5: Response – managing buildings once an emergency occurs

This section is for territorial authorities to help you manage buildings in an emergency in accordance with your plans; in particular, if rapid building assessments and/or urgent repairs are required. It contains steps for managing the response including activating a building assessment plan, mobilising key people, and managing the ongoing operation.

Helpful tools include:

- response checklist for activating a building assessment operation – Appendix 4
- cordoning checklist, barricading guidelines – Appendix 5
- health and safety information – Appendix 6
- memorandum of understanding for engaging assessors – Appendix 7.

Response – what is required

Under the National CDEM Plan (section 80) each territorial authority is, as necessary, to:

- lead rapid building assessments
- take steps to manage the safety of people in and near a building, either in accordance with directions of the Controller during a state of emergency or Recovery Manager during a transition period, or in line with its functions under the Building Act 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.

When an area has been designated for building emergency management under the Building Act, steps to manage the safety of people in and near buildings should be taken in accordance with the directions of the 'responsible person' (eg the Building Response Manager).

Steps to achieve this

To manage buildings in response to an emergency, territorial authorities need to:

- establish and manage a rapid building assessment operation when required, including mobilising and managing volunteer assessors
- carry out placarding and other activities (eg cordoning, stabilisation/demolition) as needed
- seek further information from building owners as necessary.

MBIE helps by:

- supporting CDEM Groups and territorial authorities as needed following an emergency
- leading rapid building assessments if a state of national emergency has been declared.

5.1 Managing buildings to help protect life and property

5.1.1 Mobilising the response

Immediately following a damaging hazard event, a response management structure will be activated by agencies using the Coordinated Incident Management System (CIMS). Standard early response tasks include:

- territorial authorities and, if necessary, CDEM Groups, activating Emergency Operations Centre (EOC) and Emergency Coordination Centre (ECC) facilities respectively¹¹
- emergency services mobilising and carrying out rapid impact assessments to determine the impact and extent of damage
- at the national level, activating the National Crisis Management Centre (NCMC) to coordinate the central government response
- deciding whether to declare a state of local or national emergency¹², or to give notice of a local or national transition period¹³, and/or designate an area for building emergency management¹⁴.

The Building Response Manager for the territorial authority should liaise with others as quickly as possible to get a preliminary picture of building damage in the district – its geographic extent, the type of buildings affected, and likely effects on public safety. He or she should seek input from local structural and geotechnical engineers and senior building officials, convening a specialist operational panel to discuss as necessary.

The Building Response Manager provides this information to the Controller to help the mayor (or other authorised person) when deciding whether to declare a state of emergency, notify a transition period, and/or designate an area for building emergency management.

A specialist operational panel then provides ongoing technical and regulatory oversight to the subsequent response and recovery activities relating to buildings.

When an area is designated under the Building Act for building emergency management, the designation must be immediately published on a publicly accessible and free-to-access website or, if this is not possible, through other appropriate means.

A designation notice must:

- describe the designated area
- describe the relevant emergency
- specify the time and date on which the designation was made.

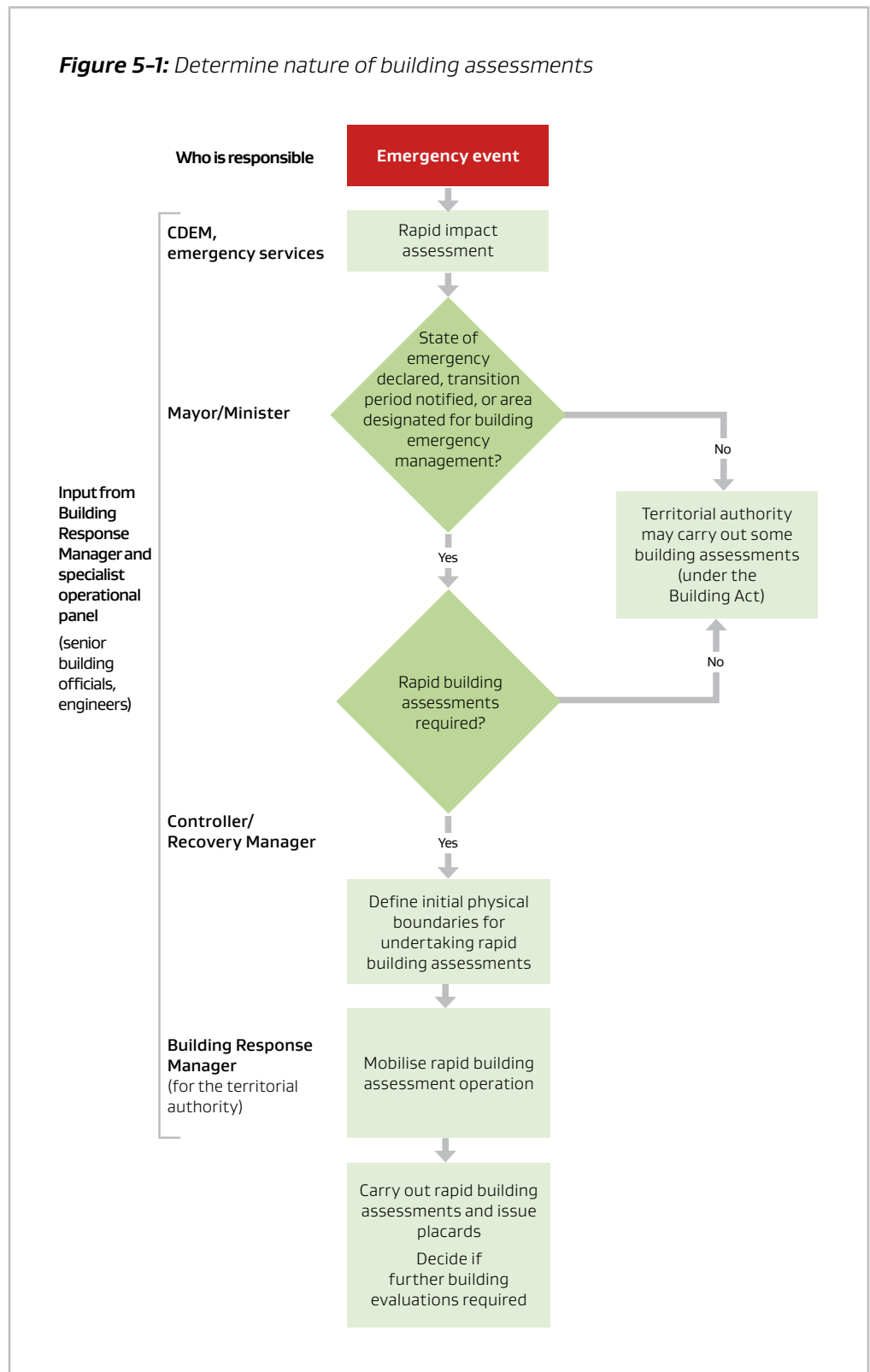
¹¹ These centres are usually called Emergency Coordination Centres (ECCs) at the CDEM Group level

¹² CDEM Act sections 66-73

¹³ CDEM Act sections 94A-94F

¹⁴ Building Act section 133BC

Figure 5-1: Determine nature of building assessments



5.1.2 Controller decides if rapid building assessments should go ahead

The relevant CDEM Controller (in the response phase/a state of emergency) or Recovery Manager (in the recovery phase/a transition period) will decide if there is a need for a rapid building assessment operation to assess risks to public safety posed by damaged buildings and/or land instability.

If an area has been designated for building emergency management but no state of emergency or transition period is in place, decisions on any rapid building assessment operation are instead made by the officer/official with the delegated authority to make designation decisions on behalf of the territorial authority.

The Controller (or equivalent) will make their decision based on feedback from the rapid impact assessment and advice from the Building Response Manager, using the local specialist operational panel. They will also need to decide the initial physical extent of any rapid building assessment operation, taking into account where cordons are being placed and key public access routes. Further information may alter the extent of the rapid building assessment operation.

In all cases the Controller (or equivalent), in consultation with the assembled response team, determines what specific duties are assigned to the Building Response Manager.

Key point

In any emergency the first priority is public safety. Building occupiers in the affected community will usually have made an immediate assessment of the life safety risk.

If necessary, emergency services personnel will establish search and rescue functions. If people require rescue, Urban Search and Rescue (USAR) task forces may be deployed.

Any rapid building assessments may be delayed until search and rescue operations are complete.

CDEM officials and territorial authorities should consider the questions in Table 5–1 when considering whether rapid building assessments are needed.

Table 5-1: Considerations for activating rapid building assessments

Issue	Questions
Response considerations	Is a state of emergency declared or transition period notified, or has an area been designated for building emergency management? Is resource coordination required because of limited local resources and/or a need for significant outside resources?
People affected	Are a significant number of people at risk from building damage or land instability?
Building damage	Is building assessment required because of a large or widespread event and damage to buildings?
Hazard event(s)	Are conditions uncertain? Could the event escalate? Is the extent of damage unknown?

5.1.3 Responding if no state of emergency, transition period or designation is in force

Key point

If no state of emergency, transition period or designation is in force, territorial authorities will use the provisions of the Building Act relating to dangerous, insanitary and earthquake-prone buildings to manage the restrictions on building access.

If there is no state of emergency, transition period or designation, territorial authorities have more limited powers to assess buildings and gain access:

- Under section 222 of the Building Act the territorial authority has the power to undertake inspections to identify dangerous, earthquake-prone or insanitary buildings. In the case of a household unit the territorial authority must apply to the District Court for an order, and must provide the occupant with 10 days' notice before doing so.
- There is also a power of entry without notice in section 173 of the Local Government Act where either:
 - there has been a sudden emergency resulting in loss of life or injury to a person, damage to property, or damage to the environment; or
 - there is danger to any works or adjoining property.
- Buildings that have been assessed will not receive placards (as they do under a state of emergency, transition period or designation). The territorial authority can issue a notice under the Building Act if it finds that a building is dangerous, earthquake prone or insanitary.
- Assessments may be limited to an external inspection if the owner (or the occupier of residential premises) does not give permission to enter, and section 173 of the Local Government Act does not apply.

Appendix 1 has more details of relevant Building Act powers and notices.

5.2 Managing a rapid building assessment operation

If the CDEM Controller (or equivalent) decides rapid building assessments are required, the Building Response Manager will then implement the assessment operation on behalf of the territorial authority. He or she will work to the Controller, or to another appropriate role as tasked by the Controller such as an Operations Manager (refer section 4, Figure 4-1).

Key steps for activating and managing a rapid building assessment operation are as follows.

Response step	Actions
1. Building Response Manager activates the building assessment plan	Controller directs Building Response Manager, who then implements the assessment operation on behalf of the territorial authority
2. Mobilise key people to manage the assessments	Consider the nature and extent of the emergency; decide suitable structure and key roles
3. Plan the rapid building assessment operation	Decide the approach; seek advice on hazards and geotechnical risks; decide assessment priorities; estimate the number of buildings within the initial boundaries and deduce the approximate number of Tier 2 assessors and support personnel required
4. Establish supporting services	Provide a data collection system for assessment results; gather material for assessors and establish field support; consider responsibilities for health and safety; provide legal and communications support; liaison with Heritage New Zealand Pouhere Taonga and other stakeholders
5. Mobilise rapid building assessors	Locate and engage assessors; enlist extra help if needed
6. Get the building assessments underway	Establish assessment teams and assign areas; provide induction; organise daily briefings and debriefings; take steps to minimise risk in the field; consider team member wellbeing; start the assessments and then record and collate the results and provide to the EOC
7. Manage the ongoing operation	Manage cordons and barricades; issue placards/notices; consider any urgent stabilisation/demolition of buildings required; identify indicator buildings if appropriate; monitor the operation
8. Manage communications	Communicate progress to the Controller; help public information management/communications teams prepare key messages for media and the public; provide appropriate information to building owners and occupants

Key point

The objective of managing buildings in an emergency includes helping to protect life and property, and restoring building functions and services as soon as possible (National CDEM Plan, section 77). Carrying out a successful assessment operation is central to this as it: coordinates these assessments with the wider response operation; manages communications with owners, occupiers and the public (in conjunction with the Public Information Management function); and provides feedback to CDEM to aid situation awareness.

5.3 Response step one: Building Response Manager activates the building assessment plan

The Building Response Manager's first step is to activate the building assessment plan developed during the readiness phase (as described in section 4). This plan should be changed as needed to address the nature of the emergency and the Controller's requirements.

The Building Response Manager should also set up an operations log for recording all key decisions and briefing/debriefing times.

Appendix 4 gives a checklist for activating a building assessment operation, following the steps described in this guide. The actual process will depend on the operation's scale and the local building management plan.

Key point

Rapid building assessments are likely to get underway anywhere from 12 to 48 hours after an emergency. This is because it takes time to assess the resources needed and mobilise key people.

5.4 Response step two: mobilise key people to manage the assessments

5.4.1 Consider the nature and extent of the emergency

The Building Response Manager will consider the type and extent of the emergency in order to mobilise appropriate resources for a rapid building assessment operation. This should take into account:

- whether there are trained staff available locally who are able to fill key roles
- the type and extent of the event:
 - Has it affected buildings within the commercial district and/or important community facilities, eg schools, medical facilities, supermarkets?
 - Has it seriously affected residential housing?

- Are there geotechnical land instability concerns?
- What is the scale and impact on buildings, and how long is the rapid assessment operation likely to take?

These considerations will determine the nature and amount of external support to ask for, and the structure and key roles needed to support the assessment operation.

Key point

Upon a request from the Controller (or equivalent), MBIE will coordinate the provision of Tier 1 personnel capable of leading an assessment operation and/or provide other support requested.

Rapid building assessors should be Tier 2 trained. MBIE maintains a national register of trained building assessors.

5.4.2 Confirm and implement suitable structure and key roles

All emergencies are different and will require differing skills. The nature of activities will change with time as issues arise, so the operating structure should be flexible.

The territorial authority's plan for managing buildings in an emergency should address these issues and be the first point of contact for filling the key roles (refer section 4).

Functions that may need people to lead them include:

- recruiting and rotating Tier 2 rapid building assessors
- inducting, registering and warranting assessors. These will mainly be from the Tier 2 list, but additional people with specific skills, eg geotechnical engineers, may also need inducting.
- daily briefing and debriefing sessions
- data capture and IT support
- coordinating assessment teams, eg CBD buildings, residential, geotechnical
- a critical buildings team – assessing and advising on stabilisation/demolition of complex damaged buildings
- wellbeing support for assessment teams to address issues of health and safety, fatigue and stress.

Refer section 4 Figure 4-2 for a generic example of an operating structure. You could use this as a starting point and adapt it to suit the particular emergency and context.

5.5 Response step three: plan the rapid building assessment operation

5.5.1 Decide the approach

Planning a rapid building assessment operation will depend on: the nature of the emergency; its impact on the community, its people, buildings and land; and the extent of the affected area.

The Building Response Manager will need to decide on the overall priorities, with guidance from the Controller and community leaders.

Separate operations may be required to concentrate on:

- buildings within the central business district
- critical buildings needing to be stabilised
- community facilities: eg schools, medical facilities, shops
- land instability: eg slips, rockfall
- residential suburbs.

5.5.2 Seek advice on hazards and geotechnical risks

The Building Response Manager will need to seek advice on the likely ongoing nature of hazards and risks. This may include an understanding of any elevated risk of aftershocks following an earthquake, or the weather forecast for flooding events. GNS Science and NIWA can provide advice. MBIE may also be able to assist.

An area or areas affected by significant geotechnical risk may require a location or sector based approach. This will depend on the:

- geographic extent of the event and its impacts
- geotechnical assessor resource available and their skillsets and experience
- number and complexity of the geotechnical issues (for example, landslide, mass movement, landslide dam, cliff collapse, boulder roll).

In cases of major land damage the situation is often highly dynamic. Ensuing aftershocks or storm events may require ongoing monitoring and further assessments.

The extent of the area and risk from land instability will influence the response. For example, if there is an actual or potential threat to life from land instability USAR will be directly involved in rescue operations.

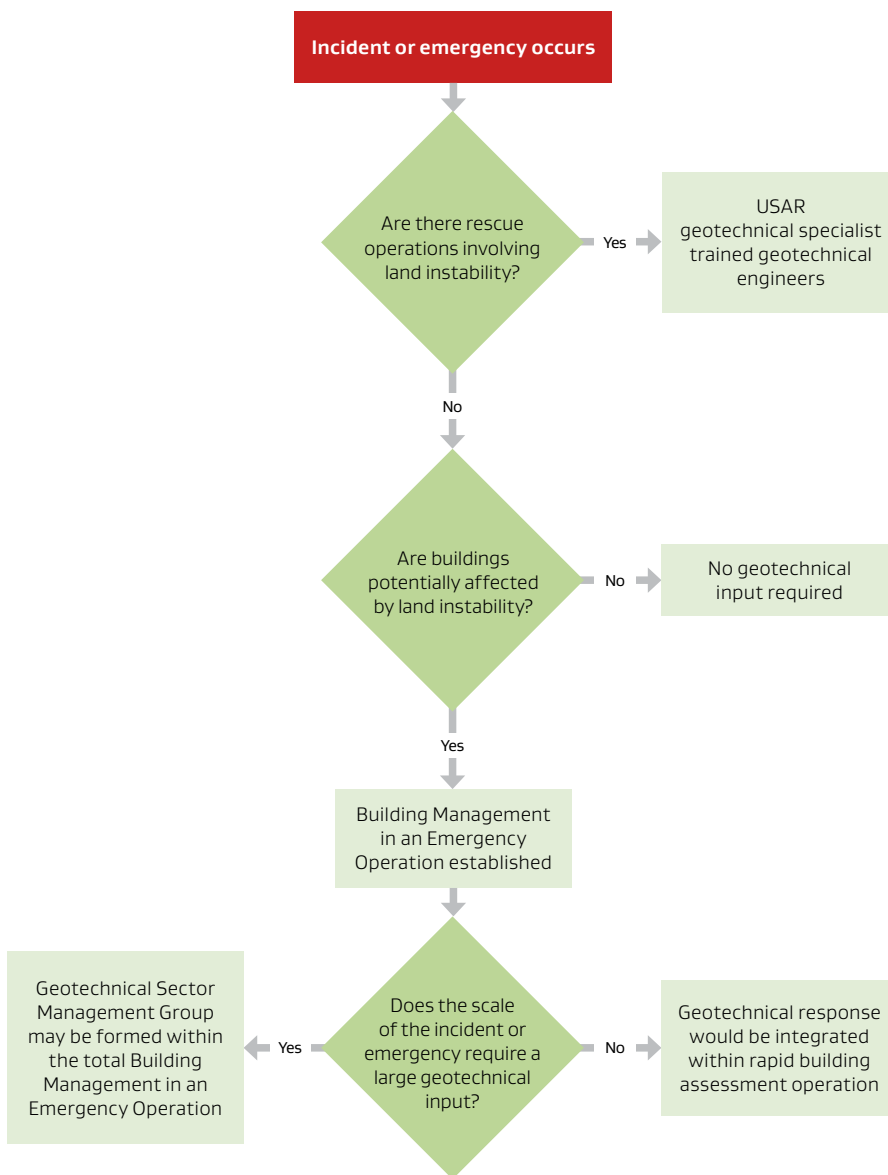
Following rescue, if an area-wide or hazard-specific response is required a specialist geotechnical group with a designated leader should be established. Refer to the field guide: *Rapid post disaster building usability assessment – geotechnical*, section A10.1 Appendix 10, for more information.

Figure 5-2 (based on Figure 1 from the geotechnical field guide) outlines the decisions for geotechnical professional involvement during a state of emergency.

Key point

In some cases buildings may not be damaged but can still be exposed to unacceptable life safety risk from a geotechnical hazard. Access to, and use of, these buildings needs to be managed.

Figure 5-2: Process for geotechnical professional involvement during a state of emergency



5.5.3 Decide which buildings to assess first

The rapid building assessment operation should follow the priorities established by the Building Response Manager. This should be informed by:

- the pre-prepared list of prioritised buildings completed as part of the building assessment plan (refer section 4.3), and
- rapid impact assessment information gathered by first responders (Fire and Emergency New Zealand, Urban Search and Rescue, New Zealand Police, etc).

Table 5-2 gives criteria for prioritising buildings for assessment. These priorities may need adjusting once the operation is underway.

If there has been an earthquake and you are expecting large repeated aftershocks, it is also useful to identify a range of indicator buildings to help monitor the rapid assessment operation. Refer section 5.9.3 for details.

Table 5-2: Building assessment priorities

Commercial and industrial areas	Residential areas
<p>Prioritise the rapid building assessment of commercial and industrial buildings using criteria such as:</p> <ul style="list-style-type: none"> • how close buildings are to arterial routes • how many pedestrians pass the buildings • whether hazardous substances are present and the potential for explosion, conflagration, contamination leak, or spill (eg chemicals, fuel) • whether the building has a specific role in the emergency or recovery phase as identified by the Controller's incident management team • how important the business operation or service is to the response or the community (eg building supplies, pharmacy) • whether essential supplies are stored or produced in the building (eg food, fuel) • how many people live or work in or near the building • whether the building contains key infrastructure (eg transformers, cell phone towers) • construction type (eg unreinforced masonry). 	<p>Prioritise rapid building assessments in community and residential areas using criteria such as:</p> <ul style="list-style-type: none"> • buildings housing vulnerable, or less mobile, residents (eg rest homes) • essential services (eg supermarkets) • buildings that serve large numbers of people (eg schools and apartment blocks) • buildings used as Civil Defence Centres.

5.5.4 Make a preliminary estimate of the number of assessors required

Use the preliminary boundaries that have been identified for the rapid building assessment operation to estimate the number of buildings needing assessment. Use this number to estimate how many Tier 2 and support personnel may be needed.

While this will inevitably change as you receive better information, it is a good starting point for mobilising the necessary resources.

5.5.5 Determine the level of assessment

A Level 1 assessment operation (external inspection of about 20 minutes) will generally cover most damaged buildings. However, it may be more appropriate to start with a Level 2 assessment (which includes internal inspections and takes two to four hours) for some key buildings (eg hospitals), infrastructure (eg water, power) and more complex structures (eg a stadium or railway station).

Figure 5-3 describes the process for determining the extent of building assessments likely to be required during the response phase. Figure 5-4 summarises further evaluations or actions that may be necessary during response and recovery: these are a mix of territorial authority and building owner responsibilities.

Refer to Table 2-1 earlier for more about the building assessment types, and also to MBIE's field guides.

Figure 6-1 in Section 6 has more details of actions in the recovery phase.

Figure 5-3: Determining the extent of building assessments

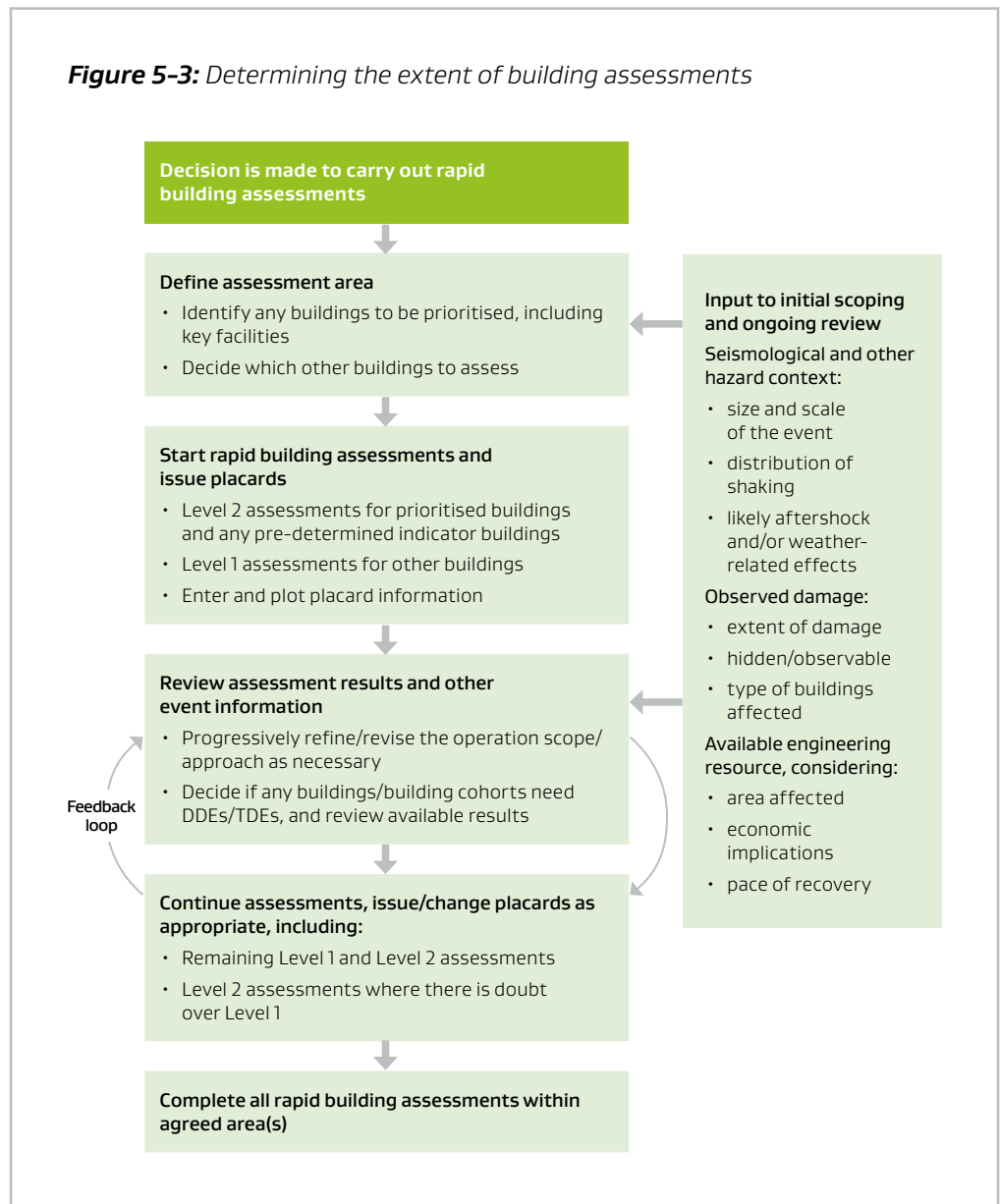
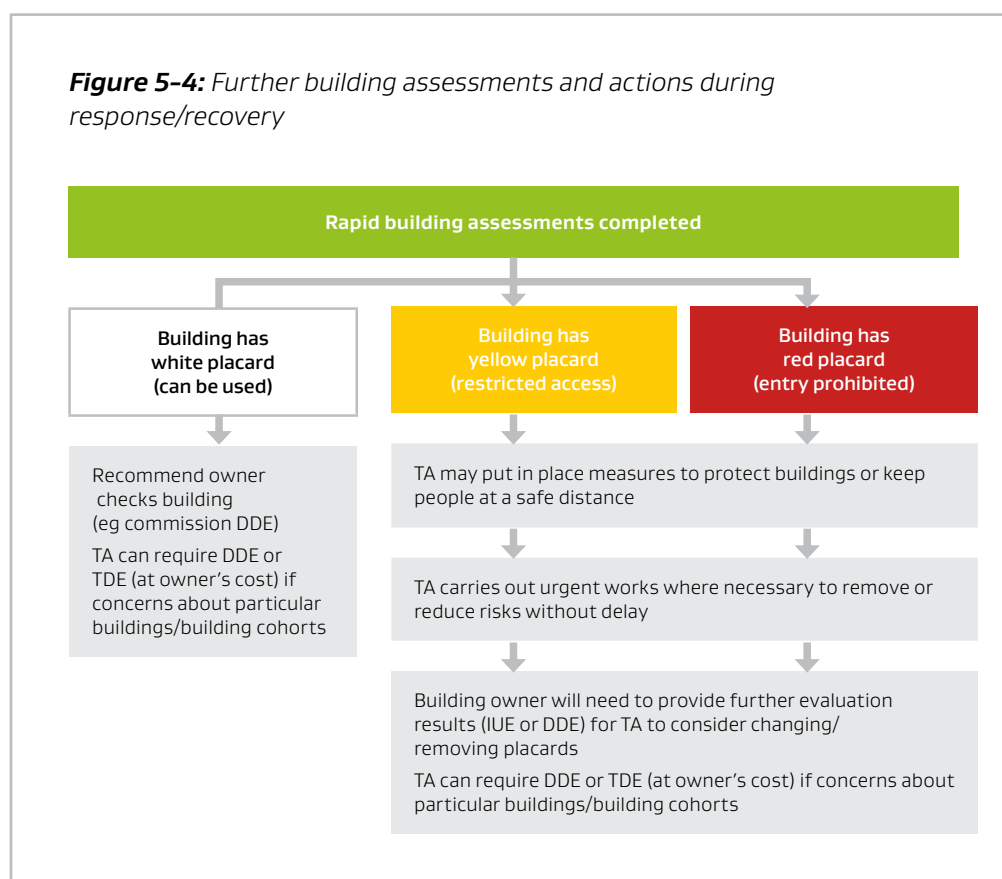


Figure 5-4: Further building assessments and actions during response/recovery



5.6 Response step four: establish supporting services

5.6.1 Provide a data collection system for assessment results

Access to building records within the territorial authority database will be necessary to generate building forms and then enter the data captured during the assessments. The Building Response Manager will then need to report aggregate information to the Controller or other decision makers.

Refer Readiness step four, section 4.4.1 'Provide a suitable technology platform'. If systems have not been established in advance, this will require close liaison with the territorial authority IT Manager.

As described in the Readiness section, the two main methods for recording assessments are:

1. **Printed rapid building assessment forms** (available at www.building.govt.nz¹⁵) for building assessment following floods and earthquakes, and for geotechnical emergency response assessments. These forms can also be used for other types of emergency.

¹⁵ <https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/>

OR

A rapid building assessment app that assessors use in the field via a tablet or mobile phone. If the territorial authority has established this option, it should lead to the faster collation and supply of assessment results to those managing the emergency response.

5.6.2 Gather material for assessors and establish field support

Make sure there are enough arrangements and logistical support to provide assessors with the necessary resources. This will include food and drink as appropriate, field guides, personal protective equipment (PPE), maps, and placards.

5.6.3 Consider health and safety

Assessors, team leaders, and territorial authorities have health and safety responsibilities.

The Health and Safety at Work Act 2015 governs health and safety in workplaces. As an employer, territorial authorities have a duty to take all practicable steps to ensure the health and safety of assessors while at work. The assessors also have a responsibility under the Act. The Act also places duties on employers, employees, and others who are in a position to manage or control hazards.

You need to:

- use assessors who are trained in managing their own safety in the field and the safety of their team
- advise assessors of the hazards they will face out in the field.

The work environment will have new, and initially unknown, local hazards that pose risks to assessors and to the public. Many buildings may be hazardous because of potential collapse or falling debris.

This will add to any existing environmental risks and hazards such as hazardous substances, construction or demolition sites, slope stability and excavations. Hazard risks may have been aggravated, or their management compromised, by the emergency.

- At the deployment briefings, alert all staff and volunteers to the hazard risks.
- Refer to the field guides for information for rapid building assessors on field safety and first aid.
- Make psychological services available for assessors and others involved in the rapid building assessment operation as needed.
- Make sure there are systems in place for recording who has been assigned to which area, and that assessors log in and out each day so everyone can be accounted for.

Appendix 6 has more detailed health and safety information.

5.6.4 Access legal, communications support

Establish access to legal advice: this is likely to be needed to check issues about notifying building owners, privacy concerns, and so on.

Liaise with communications staff within the territorial authority. Key messages will need to be developed to inform building owners and the public, maintain public confidence and, as necessary, request public cooperation and assistance. Some material such as factsheets may have been pre-prepared. Refer to Readiness step six, section 4.6 for tips and resources, and to Response step eight for more on managing communications once assessments are underway.

5.6.5 Liaison with Heritage New Zealand Pouhere Taonga

Liaising with Heritage New Zealand Pouhere Taonga is important as its functions include providing advice on heritage matters in the event of a national or local emergency. Refer to section 5.9.6 for information about its involvement if a heritage-listed building is identified for urgent demolition or other urgent works.

Further information about Heritage New Zealand Pouhere Taonga's role in an emergency is set out in the Guide to the National CDEM Plan section 15.5 and in sections 133BV and 133BW of the Building Act.

In the event that a state of emergency is declared, Heritage New Zealand Pouhere Taonga expert advisors are available to assist with:

- rapid assessment of the risk to and from heritage buildings
- identifying heritage buildings sites and areas
- assessing heritage values of buildings, sites and areas, and/or
- securing of heritage places.

The Heritage New Zealand Pouhere Taonga website contains a list of all places on the New Zealand Heritage List. It provides hard copies of this list to local authorities annually and an electronic update quarterly. It also maintains building files and copies of many conservation plans.

5.6.6 Liaison with other stakeholders

There will be a need for significant liaison with other people, organisations and teams outside the rapid building assessment operational team. This includes liaison regarding:

- cordons and barricades – coordinating with the Operations Manager for the response on the location of any cordons and provision of barricades to protect the public in fall zones (refer section 5.9)
- urgent works such as stabilisation or demolition (section 5.9.6).

It also includes liaison with:

- commercial building owners – warranting engineers commissioned by commercial building clients
- the professional engineering community – seeking advice on technical issues and providing direction on priorities and timeframes. In significant events, the technical societies will set up clearing houses to provide the latest information to all engineers involved in assessing buildings and land.
- Heritage New Zealand Pouhere Taonga, as discussed above.

5.7 Response step five: mobilise rapid building assessors

5.7.1 Locate and engage assessors

Estimate the number of trained assessors and the necessary skillsets to carry out rapid building assessments in the affected area. (You may have already made an initial estimate – refer section 5.5.4.)

Mobilise the required number of assessors. Source these primarily from MBIE's Tier 2 list. Call on Tier 3 (awareness trained) people for extra support. Seek local resources, and those from neighbouring territorial authorities and other regions if needed.

It has been normal for Tier 2 rapid building assessors to volunteer for up to three days to support the operation. However, they will need to be protected from liability.

Accordingly, before a rapid building assessor starts work, the territorial authority needs to enter into a written agreement with the assessor via a memorandum of understanding (see Appendix 7). This is especially important for any assessors who are not employed by the territorial authority at the time of the response; typically a person volunteering their skills. This provides the warrant for assessors to undertake rapid building assessments.

The memorandum of understanding addresses liability concerns, outlines expectations about the scope and duration of the role, and explains which entity the assessor will report to.

If an assessor's services are needed for more than three days, the territorial authority will need to engage them under a professional services contract and arrange funding for this service. Note that termination and rotation of specialist assessors after three days to minimise costs is not encouraged if this is likely to jeopardise a timely and effective response. This is especially the case if specialist local knowledge is needed; eg with land stability geotechnical assessment.

Key point

An authorised rapid building assessor is generally protected from liability during a state of emergency or transition period under Section 110 of the CDEM Act, or under section 390 of the Building Act during a designation, unless an act or failure to act constitutes bad faith or gross negligence.

5.7.2 Enlist extra help if needed

MBIE can help to identify appropriate Tier 2 assessors, or provide additional induction resources if not enough Tier 2 assessors are available to support the operation.

If necessary, the Building Response Manager can ask the Controller to request additional support from MBIE. If a state of national emergency has been declared, MBIE will support the operations without request, using Tier 1 personnel.

5.8 Response step six: get the building assessments underway

5.8.1 Establish assessment teams, induct assessors and assign areas

Establish assessment teams. A trained rapid building assessor (Tier 1 or Tier 2) should lead each assessment team.

Each team will ideally have two technical field staff, and one person (who may be non-technical) to interact with building occupants. Teams should be expanded to include geotechnical expertise if there are geotechnical hazards threatening buildings and/or life safety. For assessing large commercial buildings, a CPEng registered engineer must be a member of the assessment team.

Set up a standard induction process to be delivered by the Induction and Technical Coordinator. This should cover aspects such as: the situation operational command arrangements and key points of contact; the rapid building assessment procedures; field guides and forms; posting placards; and health and safety issues.

Check and provide suitable identification for assessors going in the field where necessary. Tier 1 and Tier 2 trained assessors should already have MBIE-issued identity cards.

Key point

Before deploying assessors, the Building Response Manager should have determined:

- what information is required from the field operation
- what actions need to be taken (for example, isolating severely damaged properties), and
- how assessors should report issues such as life safety hazards, the need for cordons, barricades, shoring, or demolition.

In the deployment briefing, mark the area allocated to each team on a map. Ideally, building assessment teams should be allocated buildings on a block-by-block basis as this lets them see each building from multiple sides. As assessments are completed, the assessors should mark off those areas on the map and transfer the information to master maps maintained by the building assessment coordination centre. This mapping information will help to identify areas that have suffered significant property damage and prioritise further assessments or cordoning.

If possible, provide each assessment team with city block maps so they can indicate the extent of cordoning they believe may be required.

5.8.2 Organise daily briefings and debriefings

Provide ongoing direction to assessors in daily (morning) briefings. When determining the content of these briefings, take into account that conditions can change rapidly during an emergency. Table 5-3 outlines key topics to cover at the daily briefings and operational requirements such as priorities and tasking.

The Building Response Manager should emphasise that:

- determining the life safety risk posed by buildings is the overriding priority of the assessment operation
- assessors should allow continued use of buildings that are not severely damaged as far as is practicable. This is because continued use of buildings that do not pose a major safety hazard avoids relocating the community, which minimises the impact of the emergency and allows faster recovery.

Also hold daily (afternoon/evening) debriefings. This gives assessors the chance to share any issues experienced during the day and to get mutual support. It also helps the management team make any changes needed to future plans and activities.

Table 5 3: Daily briefing topics for rapid building assessors

Topic	Description
Health and safety	<ul style="list-style-type: none"> • Brief assessors on known safety risks. • Encourage assessors to look after their own wellbeing and know what support is available to them. • Provide safety equipment needed to carry out assessments. • Provide for the safety of assessors.
Information collection	<ul style="list-style-type: none"> • Make sure assessors know they need to accurately and clearly identify each building (using maps or plans showing the building's location and description where necessary). • Brief assessors on local resources (maps, photographs, and building numbering systems).
Public safety and building usability	<ul style="list-style-type: none"> • Instruct assessors to recommend further actions following an assessment if appropriate (eg the need for completing detailed follow-up inspections or assessments) and show them how to record this on the forms. • Instruct assessors to place barrier tape around unsafe areas. • Make sure assessors understand that a red placard effectively prevents access to a building, so does not require barrier tape. • Remind assessors that they may need to place barrier tape around an external fall zone, or prevent access within part of a yellow-placarded building.
Communication	<ul style="list-style-type: none"> • Give assessors an information sheet describing the building assessment operation and the placard system to give to building owners. This could be prepared in advance. • Reiterate key messages and protocols, especially if the response period is extended.

5.8.3 Minimise risks in the field, consider team member wellbeing

Risks must be minimised by following appropriate work practices. Table 5-4 highlights elements of safe fieldwork.

MBIE's field guides provide guidance on entry into damaged buildings. They also cover practices such as teamwork, personal safety responsibilities and hazard awareness.

Also consider that stress and fatigue can affect anyone involved in a rapid building assessment operation. This will need constant monitoring and attention. Make sure the assessors are rotated adequately and that they are taking breaks. The daily debriefings will also help, as will providing access to psychological services if required.

Make sure all assessors log in and out each day and record the area to which they have been assigned. This will enable oversight of assessors for their own safety and make sure all are accounted for.

Table 5-4: Elements of safe fieldwork

Issue	Action
Teamwork	<ul style="list-style-type: none"> • Make sure assessors understand they <u>must</u> look after other team members (two assessors should enter the building and one person should remain outside). • Make sure there is adequate knowledge of an assessor's location at any time by requiring them to log in and out of the affected area.
Personal responsibility	<ul style="list-style-type: none"> • Make sure assessors wear personal protective equipment (PPE), including hard hats, high-visibility vests, appropriate footwear, and identification. Facemasks should be worn if there are asbestos risks. • Make sure assessors maintain personal hygiene, including treating cuts and grazes.
Hazard awareness	<ul style="list-style-type: none"> • Make sure assessors know how to identify potential hazards. This includes the following actions: <ul style="list-style-type: none"> – Check a building from the outside for risks before entry, including risks from above. – When entering a building, stay in pairs and have at least one team member outside to watch for new risks and signal evacuation if needed. – Be alert to the presence of hazardous substances and live electrical circuits. – Document and report all hazards as they are discovered.

5.8.4 Start the assessments, record and collate the results

Direct assessor teams into the field to undertake Level 1 assessments of buildings within scope, and Level 2 assessments where appropriate. The field guides for rapid building assessments describe the process assessors should follow and recommended observations.

Key point

In areas where geotechnical hazards threaten buildings and/or life safety, the assessment teams should include geotechnical expertise. If the geotechnical and structural assessments are completed separately, coordinate the results so that the placarding decision reflects the highest risk level assessed between the two (but also records less critical hazards, so these are not lost).

Assessors will record their assessments in the field using assessment forms or apps (refer Response step four, section 5.6.1). They will issue placards for buildings they have assessed, as described in the next Response step (section 5.9.2).

To manage the assessment results, allocate specific people for data collation and manual database entry where necessary, and set up systems to enable this. Checking the quality of this data before uploading is important to verify that a consistent approach to building assessment has been taken across the teams. This would normally be done by the Building Response Manager or a delegated technical person.

5.9 Response step seven: manage the ongoing operation

Ongoing activities include:

- managing cordons and barricades for public safety
- issuing placards to manage building access; changing or removing these placards as necessary; or issuing Building Act notices as required (eg for dangerous buildings) if there is no state of emergency, transition period or designation in force
- identifying and using indicator buildings if further damage is likely; eg from large aftershocks
- monitoring the assessment operation and, where necessary, seeking more detailed building evaluations
- considering whether any severely damaged buildings require urgent works such as stabilisation or demolition.

5.9.1 Manage cordons and barricades

During a state of emergency, transition period or designation the Controller is responsible for:

- the broad assessment of life safety hazards in the affected area, such as gas leaks and sink holes unrelated to buildings, and
- applying appropriate measures to protect buildings or keep people at a safe distance, such as installing robust cordons, barricades, hoardings or fences.

Cordons block off an entire area, whereas barricades block off a building or part of a building. They can range from simple barriers, such as hazard tape, through to complex barriers, such as a wall of shipping containers (refer Table 5-5). Their purpose is to prevent people from going into areas, buildings or parts of a building that are not safe because of land instability or building damage.

Table 5-5: Cordons, barricades and barrier tape

	Cordoning	Barricading	Barrier tape
Defined as...	Ordinarily a larger area where access is prohibited, whether for a short/fixed period or on a more permanent basis	A fence-like structure to protect people from collapse of a building (or part of a building) or other structure	Temporary warning or lower risk (eg chimney or flooded room)
Who makes the decision?	Controller	Building Response Manager	Rapid building assessor
Role of the rapid building assessor	Possibly involved in making recommendations to the Building Response Manager that support the Controller's cordoning decisions	Makes recommendations about where barricades should be set	Possibly sets out barrier tape, or specifies this if others are tasked with setting it out

Cordons and barricades may be put up shortly after the emergency and will need to be managed as building assessments continue. The Building Response Manager should support the Controller during the response period by providing advice and information collected from building assessments. Collapsed buildings will require a cordon without the need for information from rapid building assessments.

Neither resource consent nor a building consent is required for measures such as hoardings or fences put in place to protect buildings or keep people at a safe distance. In addition, where measures are in place for more than 3 months within an area designated for building emergency management, the building owner is liable for ongoing costs. The Building Response Manager may recover those costs from the owner, with the amount becoming a charge on the land on which the building is situated.

Emergency services will take charge of cordoning off collapsed buildings that have trapped, seriously injured, or killed people. This is to protect the site to allow for rescue. Thereafter, cordoning for forensic building investigation is MBIE's responsibility.

Collapsed buildings or buildings that USAR teams are searching through should **NOT** be assessed or placarded until the USAR team has completed its work.

For buildings and structures that pose an immediate life safety risk, the territorial authority may also take responsibility for directing propping, bracing or demolition ('making safe') in part or in full. The New Zealand Police and the New Zealand Defence Force may also have a role in managing building security and access.

Key point

Before reducing the cordoned area for public access, the Controller may authorise a 'street sweep' by the Sector Coordinator, the lead assessing engineers and emergency services. This street sweep will confirm that all hazards have been addressed and all agency requirements have been met before full access to the street is granted. Barricading may still be required in some isolated sites to mitigate the risk of building failure.

Also refer to:

- Appendix 5 for a cordoning activity checklist and barricading guidelines
- *Emergency Movement Control Director's Guideline* (DGL 18/15) on the NEMA website www.civildefence.govt.nz for information on cordon supply and management.

5.9.2 Manage placards and notices

Issuing placards

If a state of emergency, transition period or designation is in force, assessors:

- can 'mark' (issue a placard for) a building
- have powers of entry, and
- can examine buildings.

The assessor must carry proof of identity and be able to explain why they are entering the property and under what authority.

In addition, when a designation is in force, the assessor (as a 'responsible person'):

- must take reasonable steps to obtain the occupier's consent before entering a building
- can use any reasonable means to access the building, provided they take reasonable steps to ensure minimal damage
- must leave an MBIE-approved notice (available from www.building.govt.nz¹⁶) if no one is present, stating their identity, the date and time, and the purpose of entry

¹⁶ <https://www.building.govt.nz/assets/Uploads/managing-buildings/Notice-of-post-event-assessment-in-absence-of-occupier.docx>

- must not enter a simple-unit residential building or household unit without either the occupier's consent or a warrant
- must not enter any other building or land *in the presence of the occupier* without their explicit consent or a warrant
- must not inspect a building or land without the occupier's consent or a warrant more than 6 months after a designation comes into force (although an extension of up to 3 months can be granted by a person who has authority to extend the designation timeframe).

Assessors will issue either white, yellow or red placards to buildings they have inspected, in accordance with the MBIE field guides for assessors. The placard details are recorded on the assessment form (refer Part A, Table 2-2).

Building owners, their contracted engineers and building occupiers cannot remove or change placards, or alter the status of a building during a state of emergency, transition period or designation.

Before placing a placard, rapid building assessors delegated with the powers of a Controller (as appropriate) may encounter a building previously identified as dangerous, insanitary or earthquake-prone that already has a Building Act notice. Assessors should use any such Building Act notices to guide their assessment decisions, noting that these Building Act thresholds are high.

Where a warrant is required to carry out a rapid building assessment, the responsible person (eg Building Response Manager) must apply to the District Court following the process set out in the Search and Surveillance Act 2012.

The application must be in writing and include:

- the name of the assessor/responsible person
- the address or other description of the building
- that the application is provided for under section 133BQ (10) of the Building Act 2004
- the reason(s) why entry to the building is needed to carry out a rapid building assessment
- the period for which the warrant is sought.

A Judge or other issuing officer may issue a warrant if they reasonably consider that entry is necessary to carry out a rapid building assessment.

Key point

Placards issued under the authority of the CDEM Act or under the building emergency management provisions of the Building Act are not the same as other Building Act notices such as a dangerous or insanitary building notice, an earthquake-prone building notice or a 'notice to fix'.

However, the placards may occasionally fulfil the purpose of warning notices under s124(2)(b) of the Building Act.

Placard templates are available at MBIE's website: www.building.govt.nz¹⁷

Changing or removing a placard

The outcome of a rapid building assessment may require a change to the original placard.

For example:

- A Level 2 assessment could change the status of a building set by a Level 1 assessment.
- An assessment of one building could change the status of adjacent buildings if it poses a collapse hazard.

Any change to a placard means taking the old placard(s) down from the building, installing new placards at every entrance, and updating the assessment database.

During a state of emergency, transition period or designation only a Controller (or equivalent) can authorise changing or removing a placard. It may be appropriate to consider delegating these powers; for example:

- A field decision to upgrade a placard could be approved by the Building Response Manager on the advice of the field team, or delegated to a person on the field team by these positions.
- A decision to downgrade a placard could be referred to the Building Response Manager for advice.

Building owners wanting a placard changed or removed must provide further evidence about their building's safety: refer to section 6.2.

Effect on notices when the state of emergency, transition period or designation ends

The decision to designate an area might not be made at the same time as any decision to declare a state of emergency or notify a transition period. In this scenario, it is possible that rapid building assessments have been completed, or other powers have been exercised under the CDEM Act to manage affected buildings, before the designation came into effect.

¹⁷ <https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/>

During a designation, the Building Response Manager (as a 'responsible person') has the authority to decide that any placard or written notice issued under the CDEM Act will continue in force under the corresponding building emergency management provisions of the Building Act, subject to any conditions they may consider necessary to remove or reduce risks posed by the building.

The decision for placards to continue in force must be made prior to the expiry of the state of emergency or transition period. However, the Building Act does not require the original placard or written notice to be reissued or amended.

In any other scenario, when a state of emergency, transition period or designation is terminated or expires, any placards placed on buildings under the CDEM Act will expire.

Before this happens, the territorial authority should carry out a 'stocktake' of the placards and then decide, for each placarded building, whether or not to issue a notice for a dangerous, affected, or insanitary building under section 124 of the Building Act (a section 124 notice). This should be done with particular reference to buildings that received yellow (restricted access) or red (entry prohibited) placards.

The status of the building as reflected by the most detailed assessment should be added to the property file.

Enacting the section 124 process is time- and effort-intensive, especially if there are a large number of sites to consider and building owners/occupiers to inform. Therefore, a substantial lead-time will be required before the end of the emergency/transition period so there is a seamless transition from expired placards to section 124 notices.

Where red or yellow placards have been issued because geotechnical or ground stability issues could affect the structure of or access to the building, it is suggested that there is a further review using geotechnical experts before the territorial authority makes a decision to issue a section 124 notice. There may be some situations where the territorial authority (and its technical experts) considers that the elevated risk level is not as high as initially thought, or where the risk level is not substantially different from that existing before the event (based on the performance of the site in question during the emergency period). In these situations, the territorial authority would take no further action regarding restricting access to the building.

However, there will inevitably be situations where serious concerns remain about some sites and the safety of the area in the immediate vicinity of geotechnical hazards that were identified during the emergency period. In these situations the territorial authority may take a view, based on a duty of care to its residents, that ongoing restriction of access is required by issuing a section 124 notice. This notice will restrict access to the building, but not to the land immediately adjacent to it.

For guidance on the level of risk that would trigger a section 124 notice due to a geotechnical hazard, it is suggested that the approaches adopted by Christchurch City Council in the [Canterbury Port Hills \(2011/12\)](#), and in the Kaikōura and Hurunui Council districts following the [November 2016 earthquake](#) are considered.

5.9.3 Identify and use indicator buildings

Use indicator buildings to provide systematic monitoring

If there has been an earthquake and you expect large repeated aftershocks, it is useful to identify a set of indicator buildings to monitor the rapid assessment operation.

These buildings can be identified after the first day of rapid building assessments when the hazard driver and damage characteristics are evident. Take reference photos and reassess these buildings regularly to check for any further damage.

The extent of new damage provides a basis for deciding whether or not to continue with the planned building assessment operation, revisit it, or even to restart following a significant aftershock.

A similar process can be developed for indicator sites to provide support for geotechnical hazards, such as boulder roll or cliff collapse.

Key point

The indicator building procedure does not remove the responsibility of building owners to monitor their own structures and make sure they remain safe to use.

Choose a suitable set of buildings

The selected set of indicator buildings could include representative examples of certain building types, as appropriate to the event. For example, it could include:

- unreinforced masonry buildings
- pre-1976 multi-storey buildings
- low-rise tilt-panel construction (retail and industrial) constructed between 1976 and 1995
- any particular building type for which the event has been especially damaging.

Using buildings with detailed seismic assessments and building plans can be helpful. Including any instrumented buildings (ones with systems for measuring how much shaking they undergo) can also be helpful.

The chosen indicator buildings:

- should have structural elements damaged during the main event
- should be drawn from both white placarded and yellow placarded buildings
- must show damage but not be close to collapse, and preferably should not be in the shadow of a structure likely to collapse
- could include similarly constructed buildings built on different ground conditions, which may cause them to behave differently in an aftershock.

Refine the assessment operation as needed

In general terms, if indicator buildings of a particular type sustain enough additional damage to warrant changing white placards to yellow or red placards (and/or yellow placards to red placards), reassessments of buildings in this category of structure and/or with similar characteristics would be necessary. It could be that the assessment operation needs to start over.

If unexpected structural deterioration has occurred in one or more indicator buildings, the Building Response Manager should meet with the Technical Coordinators and relevant Sector Coordinators to make these decisions.

Input should also be sought from hazard advisors as appropriate; eg seismological or meteorological experts.

Collect data to support the use of indicator buildings

Data collected during the rapid building assessment operation needs to address the likely structural types of indicator buildings. Assessments should target the correct structural performance for each building group. This will ensure that revisits to particular types of building can be scheduled quickly on an area-wide basis if structural deterioration to an indicator building becomes obvious.

Depending on the nature and scale of buildings affected by the main event, the Building Response Manager may recommend that the owner of an indicator building commissions a more detailed assessment to document the damage it has suffered.

5.9.4 Monitor the assessment operation

Use feedback from completed assessments

The Building Response Manager should use feedback from completed assessments and any indicator buildings to review the approach outlined in the response plan. This review should be ongoing, as new information comes to hand.

For example:

- The Building Response Manager can use information from the Level 1 assessments to decide on the extent of Level 2 assessments required. If there is a lack of structural damage identified in Level 1 assessments in one area or building type, this could change the priority for directing where further rapid building assessments are carried out.
- If Level 2 assessments identify extensive structural damage this may require building owners in the affected areas to carry out Detailed Damage Evaluations during the recovery phase.

The extent of the assessment may vary across geographical locations, depending on the scale of the event and damage observed in different areas.

Maintain quality assurance

To ensure consistency, carry out random checks of placarding decisions and the associated geotechnical assessments where relevant. One way to do this is by using a different team to make a Level 2 assessment of a building following another team's Level 1 assessment. Alternatively, use the Tier 1 expertise to review and discuss results.

5.9.5 Plan for more detailed building assessments

After rapid building assessments have been carried out, during a state of emergency or transition period it is usually up to the building owner to commission any subsequent Interim Use Evaluation or more Detailed Damage Evaluation for buildings with yellow or red placards during the recovery phase (section 6 describes the process and these different evaluation types). Even if an owner's building received a white placard it is good practice to carry out further assessment to make sure there is no increased health and safety risk.

In some circumstances, territorial authorities (or the Local Controller) may seek a Detailed Damage Evaluation from an owner if their building is a hazard that impacts critically on recovery (eg to decide if it needs urgent demolition). They could also seek a Targeted Damage Evaluation from owners of particular type of building (as occurred in Wellington after the 2016 Hurunui/Kaikōura earthquake).

The territorial authority may need to commission expert advice to determine which buildings need closer scrutiny (see also 'Stabilising or demolishing damaged buildings' below). It will then need to satisfy itself whether further remedial building work is needed and whether to issue a notice to fix under the Building Act.

If an area has been designated under the Building Act for building emergency management, the Building Response Manager (as a 'responsible person') has the power to direct a building owner to provide an Interim Use Evaluation, Detailed Damage Evaluation or other information if this is needed to determine the risks posed by the building or whether to exercise any building emergency management powers.

The direction to the building owner must be on the MBIE-approved form available at www.building.govt.nz¹⁸, which includes:

- the building owner's name
- the building name (if any), address and legal description
- a description of the information required (eg Interim Use Evaluation; Detailed Damage Assessment; etc)
- a reasonable timeframe by which the information must be provided
- the name, position title and contact details for the person receiving the information
- informing the building owner they have a right of appeal to the District Court if they consider the direction is unreasonable.

5.9.6 Stabilising or demolishing damaged buildings

Get expert advice

If buildings have been severely damaged in the emergency, it may be necessary to establish a separate critical buildings team of highly skilled experts to advise the Controller and decision-makers whether these buildings need urgent stabilising or demolition.

¹⁸ <https://www.building.govt.nz/assets/Uploads/managing-buildings/form-directing-owner-to-give-information.docx>

Where a severely damaged building is within an area designated under the Building Act for building emergency management, the Building Response Manager (as a 'responsible person') has the power to carry out urgent works if the building presents a risk of injury or death, or a risk to critical infrastructure, and it is necessary to carry out these works without delay to remove or reduce these risks.

This might apply, for example, if a building is in danger of collapsing in a location that would cause death or injury, or could block access to a critical facility such as a hospital.

Urgent works can include demolishing all or part of a building if it cannot be stabilised, is an immediate risk to life safety, or cannot be adequately barricaded without preventing access to a critical route or significantly disrupting homes and businesses.

The Building Response Manager may recover the cost of any urgent works from the building owner, with this becoming a charge on the land on which the building is situated.

Neither resource consent nor a building consent is required for urgent works.

The decision to carry out urgent works is considered to be a warrant under the Building Act. On completion of the works, the Building Response Manager must apply to the District Court to confirm the warrant unless the building owner:

- confirms to the Building Response Manager they do not dispute entry to their land to carry out the works
- agrees District Court confirmation of the warrant is not required, and
- pays for the cost of the urgent works.

If there is a state of emergency or transition period but there is no designation in effect, the Building Response Manager can direct urgent stabilisation or demolition work under the authority of the Controller/Recovery Manager. Typically, this involves liaising with affected building owners who then carry out this work. In some cases, the territorial authority may need to commission the stabilisation or demolition works. This will depend on a combination of factors including its urgency and whether the building owners are unable to do this.

A severely damaged building may need to be stabilised before any decision can be made about its demolition or repair.

Urgent demolition of part or all of a severely damaged building may be necessary if it is an immediate risk to life safety. Buildings that cannot be adequately barricaded without cordoning off the street may need to be demolished urgently; eg if cordoning would prevent access to the only route to a hospital. Barricading or cordoning may also significantly disrupt neighbouring homes and businesses, and could unreasonably impede the recovery activity.

Key point

Demolition is a last resort. Wherever practical, this decision should be held over until the building owner can be involved. It is important to consider all the external factors before a decision is made to demolish, and the reasons for making this decision must be documented.

Note that any stabilisation or demolition work will be done on behalf of, and will be paid for by, the building owner.

Heritage listed buildings

The Heritage New Zealand Pouhere Taonga Act prohibits the modification or destruction of a protected site unless authority is obtained from Heritage New Zealand Pouhere Taonga. However, this Act also provides for a fast track decision-making process during or after a state of emergency. This is in recognition of the broader considerations during a significant response and recovery operation. Refer Appendix 1 for more details.

In addition, a number of requirements must be met before works can be carried out to any heritage buildings within an area designated under the Building Act for building emergency management.

Heritage buildings include:

- any buildings included in the New Zealand Heritage List or the National Historic Landmarks List
- any place (or part thereof) subject to a heritage covenant or heritage order
- any place (or part thereof) included in a schedule of a district plan because of its heritage value.

If a heritage building is within a designated area, the Building Response Manager (as a 'responsible person') must consult Heritage New Zealand at least 24 hours before any urgent works are carried out to remove or reduce risks.

The Building Response Manager must also obtain approval from the Minister for Building and Construction (via MBIE) for any urgent demolition works to Category 1 or 'wāhi tūpuna' buildings, or to National Historic Landmarks.

Therefore, if a heritage listed building is identified for urgent demolition the Building Response Manager will need to escalate the circumstances to the Controller for further discussion with the Mayor or nominated representative.

5.10 Response step eight: manage communications

The Building Response Manager will need to communicate progress throughout the operation. A crucial aspect of this is providing status reports to the Controller on the results from, and progress of, building assessments.

The Building Response Manager will also need to:

- help communications/public information management teams with key messages for media and the public, drawing on any pre-prepared material such as factsheets (refer section 4.6.2) and providing any event-specific details required
- be ready to address periodic clearing house meetings by the relevant technical societies to understand particular issues and help provide greater understanding of the impact on buildings.

Key point

Good communication between all affected parties is vital to the success of building assessment during an emergency. Building assessors and others involved in the process are key communicators, both in creating and passing on agreed messages.

5.10.1 Communicating with building owners, occupants and the public

The assessor role is mainly to inspect and assess a building's usability. However, assessors may be the first 'official' contact for building owners and occupants following an emergency. They may need to deal with people under stress. They may also need to give information and referral to support services, and determine whether the building needs to be evacuated.

- The Building Response Manager should connect with the Welfare Manager, who will have connection/oversight of the psychosocial support sub-function (focused on the psychological and social interventions that will support community recovery for people affected by an emergency). It may be that the support agencies of the psychosocial support sub-function can deploy trained people with rapid building assessors to provide psychosocial support to affected people.
- Pre-deployment briefings of assessors should cover the territorial authority's referral system or resources for building occupants who are under stress or need more information. Support may include brochures, or having trained personnel on hand to work alongside the building assessors.
- To make sure information is consistent, use communication resources (such as factsheets) and any public information templates developed by the Welfare and/or Public Information Management functions. Provide these resources to assessors. Also cover topics such as food and water supply, social and medical services, sanitary facilities and requirements, and contact details for a call centre to answer other queries.

- In an emergency, people may show shock or confusion, and lack a clear or common purpose. This may last for weeks. Affected building owners and occupants will be dealing with their feelings about the event and the impact on them and their communities. They may have been injured. They may have lost family members or friends. Loss of access to their home or business will add more pressure.

Assessors should:

- give clear and concise information on the building assessment. For example, when explaining how placarding works, they should make sure this information explains the purpose of the placarding, the implications for building owners, and the process for changing the building's status.
- explain the likely levels of damage to be expected, what this means for the building's safety or for health issues, and what to do
- remain rational in their decisions while showing empathy. This means showing concern and understanding, but it should not detract from performing objective assessments. Assessors should avoid yielding to any pressure to re-prioritise the order of building assessments or to classify a building in a particular way. It can be effective to divide roles between team colleagues, with one focusing more on the technical assessment while the other talks to the people involved.

5.10.2 Directing media enquiries

Building assessors should not give any information to the media. If approached, they should refer them to the Public Information Manager in the Emergency Operations Centre or, where appropriate (in larger scale responses), the relevant CDEM Group Emergency Coordination Centre.

Section 6: Recovery and risk reduction

This section is for territorial authorities to help you manage buildings during the recovery phase.

Recovery should begin as soon as practicable after an emergency, often alongside the response activities. It may include further building checks, managing ongoing hazards, and approving urgent repairs.

This section also comments on taking opportunities following an emergency to further reduce risk. This involves learning from the event; improving building performance systems; and making any changes needed to improve planning, training and resourcing of building assessment processes.

Recovery and risk reduction – what is required

Under the National CDEM Plan (sections 79 and 80) each 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
- as necessary, take steps to manage people's safety in and near a building including cordoning, barricading, stabilisation work, demolition and/or building evacuations.

Steps to achieve this

During the recovery and risk reduction stages, territorial authorities:

- manage affected buildings and ask owners for more detailed assessments where necessary
- monitor ongoing hazards
- consider owners' requests for urgent building repairs
- consider whether other works (including demolition) are required to remove or reduce risks posed by any buildings
- consider whether works are required for the long-term use or occupation of any buildings, and
- when the assessment operation is complete, should carry out a formal review and share any lessons learnt.

Owners:

- provide evidence about their buildings' safety
- commission detailed structural/geotechnical evaluations as required
- carry out necessary repairs.

MBIE:

- considers the impact and operational aspects of an event and any changes needed to legislation, guidance, planning or training
- advises the Government on any requirements for facilitating efficient and effective recovery of building stock and functions.

6.1 Territorial authorities make further building checks

The recovery phase includes coordinated efforts and processes to bring about the immediate, medium-term, and long-term holistic regeneration and enhancement of a community following an emergency. It should begin as soon as possible after the emergency and may take place alongside response activities.

Red and yellow placards restrict building use during a state of emergency, transition period or designation. Territorial authorities may also issue notices under the dangerous, insanitary or earthquake-prone building provisions of the Building Act, once any designation has come to an end, to restrict access or require building work.

Territorial authorities will need to confirm rapid building assessments and manage any buildings that have received placards. This could involve asking owners for detailed assessments of any building damage and either repairing or demolishing the building.

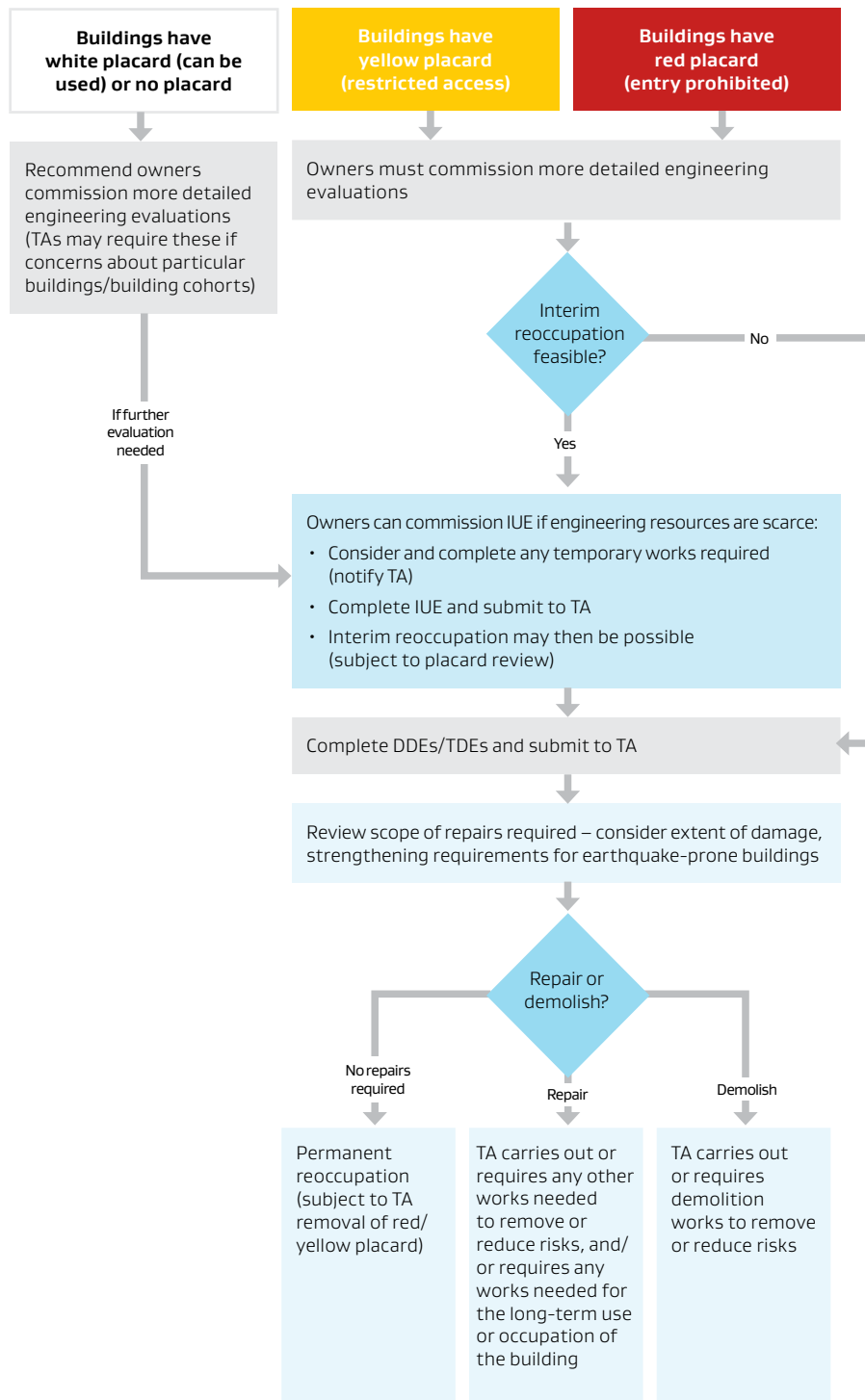
Figure 6-1 outlines the process for managing buildings once rapid building assessments are complete. This figure applies to all buildings except simple residential buildings (evaluations of these and any subsequent repairs are typically arranged through the homeowner's insurer). While some of these activities may happen in parallel with the emergency response, most will be during the recovery phase.

Types of further building evaluation are described in section 6.2 below.

Key point

Recovery activities may start when a state of emergency is still in force. If an area has been designated for building emergency management, the Building Act sets out the procedures that must be followed when requesting detailed assessments or other information. If there is no designation but a transition period is in place, the CDEM Act sets out the procedures that must be followed.

Figure 6-1: Building assessment process and subsequent actions when an area has been designated for building emergency management – all buildings except simple residential



6.2 Owners provide evidence about building status

To get a placard changed or removed before a state or emergency/transition period/designation terminates or expires (or to get a Building Act notice changed) owners must provide evidence to the territorial authority about the structural status of their building.

If a designation under the Building Act is in place, the Building Response Manager has the power to proactively direct a building owner to provide this evidence if needed to determine the risks posed by the building or whether to exercise any further building emergency management powers.

Key point

It is important to follow up and confirm all placards, even when a building is useable and is not subject to access restrictions via placards or other means. Owners should still commission engineering advice on the short and long-term use of the building after an emergency.

Following any earthquake-related emergency, owners can commission the following structural and geotechnical engineering evaluations (refer Appendix 7 for links to relevant guidance on each of these). A suitably qualified engineer can complete the appropriate evaluation depending on the building's condition and owner's needs.

Interim Use Evaluation (IUE)

IUEs provide some assessment of the ongoing usability of a building until a DDE can be completed.

Engineering resources may be stretched for some time following an emergency, and key facilities will have priority for engineering assessment. Nevertheless, owners should be proactive about understanding the safety of their structures. The IUE is a mechanism to do this.

Refer Appendix A 7.5.

Detailed Damage Evaluation (DDE)

A DDE is an in-depth engineering assessment focussed on determining the extent and nature of structural damage suffered by a building. The engineer will provide advice on building usability and options to address any damage; eg repair or demolition.

A DDE is generally completed during the recovery phase. It is usually performed by engineers who have been contracted by building owners.

In some circumstances, a territorial authority (or the Local Controller) may also seek a DDE from a building owner where the building is a hazard that impacts critically on recovery; eg to decide whether or not a building should be urgently demolished.

Refer Appendix A 7.5.

Targeted Damage Evaluation (TDE)

TDEs focus on certain building types and building elements. They recognise that some buildings or building elements may be affected more than others by earthquake shaking at a certain location. That is because the nature of the shaking depends on the magnitude, directivity and distance from the earthquake's source.

Refer Appendix A 7.5.

Key point

A TDE process was developed by the engineering societies for Wellington City following the November 2016 Hurunui/Kaikōura earthquake when directing certain building owners to provide further information. In this event, medium rise Wellington buildings (5 to 15 storeys) were more severely tested than shorter, stiffer buildings.

6.3 Managing ongoing hazards

When an area has been designated for building emergency management under the Building Act, the Building Response Manager may require 'other works' (including demolition) to a building if:

- they believe these works are necessary to remove or reduce risks posed by the building, but the threshold for urgent works has not been met, and
- measures put in place to protect buildings or keep people at a safe distance are causing ongoing disruption to public thoroughfares, other buildings or critical infrastructure.

The Building Response Manager might make this decision following a rapid building assessment, the completion of an Interim Use Evaluation or Detailed Damage Assessment, or after receiving other relevant information.

Risks that may be addressed through 'other works' include:

- any risk of injury or death
- any risk of damage or disruption to buildings, public thoroughfares or critical infrastructure
- any risks associated with being an insanitary building.

This might apply, for example, if works to prop and brace the walls of a building are necessary to reduce the risk of collapse but need not be carried out immediately, and where measures to keep people at a safe distance are preventing entry to an adjacent building.

Neither resource consent nor a building consent is required for 'other works'.

At least 10 working days before making a decision on any other works, the Building Response Manager or other responsible person must seek and consider the views of:

- the building owner and any occupiers
- the owners and occupiers of any buildings and critical infrastructure disrupted by the measures put in place to protect buildings and keep people at a safe distance
- any persons with an interest in the land on which the building is situated, such as a mortgage, other encumbrance or caveat
- Heritage New Zealand Pouhere Taonga, in the case of a heritage building
- any statutory authority that may have classified or registered the building.

The Building Response Manager must also consider alternatives to demolition, and any difference between the costs and impacts of carrying out the works versus not carrying out the works.

Once the Building Response Manager has made a decision on any other works required, they may opt to carry out the works or can direct the building owner to do so at the owner's expense.

The Building Response Manager may recover the cost of any works from the building owner, with this becoming a charge on the land on which the building is situated.

Any 'other works' carried out by the Building Response Manager must be completed within the first 6 months of the designation period, although an extension of up to 3 months can be granted by a person who has authority to extend the designation timeframe.

Any direction to carry out other works must be handed to the building owner, if practicable, and must be on the MBIE-approved form available at www.building.govt.nz¹⁹. Required information includes:

- the building owner's name
- the building name (if any), address and legal description
- the intended outcome of the works
- when the works must be completed
- why the works are required
- a statement clarifying that resource consent is not required and that the building owner can apply for a certificate of acceptance after completing the works.

If the building owner does not carry out the works after receiving a direction, the Building Response Manager may choose to carry out the works and recover the costs from the building owner.

It is important to note the difficulty in determining responsibility for mitigating land hazards. For example, where there is a geotechnical hazard upstream from a property, the building itself may be useable, but access to the building will have been

¹⁹ <https://www.building.govt.nz/assets/Uploads/managing-buildings/form-directing-owner-to-carry-out-works-to-remove-or-reduce-risks.docx>

restricted because of the life safety risk to users from rock fall, landslip or another geotechnical issue originating from adjacent land.

In these circumstances, responsibility for mitigation is often unclear and the solutions can be complex and involve many parties. For example, addressing land hazards can be particularly problematic because of affordability constraints, lack of legal land access, and inability to access insurance for life risk rather than building damage.

To help address this, start early in the recovery phase to further understand the risks, determine what options are available to mitigate the hazard, and establish who has a role in its execution and funding.

6.4 Long-term works

When an area has been designated under the Building Act for building emergency management, the Building Response Manager may direct the owner to carry out works for the long-term use or occupation of a building if:

- they believe these works are necessary to remove or reduce risks posed by the building, and are needed to make the building safe, sanitary and otherwise suitable to be used or occupied by people on a long-term basis
- the thresholds for 'urgent works' or 'other works' have not been met.

Risks that may be addressed through 'long-term works' include:

- any risk of injury or death
- any risk of damage or disruption to buildings, public thoroughfares or critical infrastructure
- any risks associated with being an insanitary building.

This might apply, for example, when works to a damaged wall are necessary to make a building safe, sanitary and otherwise suitable for long-term use or occupation, but urgent works are not required and re-entry to the building does not need to be prohibited.

Works required for the long-term use or occupation of a building do not have a special exemption from resource consent or building consent requirements.

Any direction to carry out long-term works must be handed to the building owner, if practicable, and must be on the MBIE-approved form available at www.building.govt.nz²⁰. Required information includes:

- the building owner's name
- the building name (if any), address and legal description
- the intended outcome of the works
- when the works must be completed

²⁰ <https://www.building.govt.nz/assets/Uploads/managing-buildings/form-directing-owner-to-carry-out-works-for-long-term-use-or-occupation-of-building.docx>

- why the works are required
- a statement clarifying whether a building consent is required for the works.

If the building owner does not carry out the works after receiving a direction to do so, the Building Response Manager may choose to carry out the works and recover the costs from the building owner.

Otherwise, where the building owner fails to carry out the works:

- a simple-unit residential building can continue to be used or occupied, but the territorial authority must include the failure to carry out works in a land information memorandum
- a commercial or multi-unit residential building can continue to have its use restricted through notices or placards, and measures can stay in place to protect buildings or keep people at a safe distance.

6.5 Certificates of acceptance for emergency repairs

Owners may need to carry out urgent repairs during an emergency period when it is not possible to process building consent applications. These repairs often involve building work that in normal times would require a building consent.

Building consent authorities should adopt a pragmatic approach to this, talk to owners early on, and provide certificates of acceptance (under section 42 of the Building Act) in due course where appropriate. It is a good idea to provide key messages to owners to make sure they document these repairs adequately and photograph the progress of urgent work. This will make it easier for the authority to establish on reasonable grounds that the building work complies with the relevant requirements of the Building Code.

Any works for the long-term use or occupation of a building (as described in section 6.4) should be carried out using the normal building control processes; ie by issuing a building consent for the building work and a code compliance certificate as final sign-off.

6.6 Review the completed operation and take steps to reduce risk

Risk reduction in recovery from an emergency is about taking preventive steps to avoid or mitigate further and future adverse consequences. It involves identifying and analysing risks to life and property from hazards, taking steps to eliminate those risks if practicable and, if not, reducing the magnitude of their impact and the likelihood of their occurrence to an acceptable level.

The territorial authority should carry out a formal review of its entire building assessment operation when this has been completed. MBIE may be involved with this depending on the size and scale of the event.

A 'hot debrief' is carried out immediately to capture initial thoughts and impressions before those involved disperse.

A 'cold debrief' is a more deliberate follow-up exercise. This review should identify what worked and what could have been done better. It should involve as many people as possible, including stakeholders and volunteers.

Appendix 6 Table A6.1 describes different debriefing types.

Lessons learnt from the response and recovery operations should be used to improve future management of buildings in emergencies. These lessons could include a better understanding of: the local hazards; the building stock; and the performance of different building systems and types in different events and ground conditions.

Actions the territorial authority could take to share what has been learned and reduce risk in future events include:

- highlighting any gaps that became apparent during/after the emergency or areas where things could have been done better, documenting any revised processes that were developed, and updating the building management plan
- making any improvements needed; eg to training, planning and resources
- sharing key findings with other interested parties
- identifying any new research needs
- recommending and implementing steps to reduce risk from buildings where appropriate.

MBIE may also consider if any changes are needed; eg to improve the building management emergency response or because issues have been identified with particular buildings or building cohorts. This could include further refinement to guidance, training or resources, or recommendations for legislative amendment.



APPENDICES

References and resources for managing buildings in emergencies

Appendix 1: Relevant legislation
(p97)

Appendix 2: Readiness checklist
(p105)

Appendix 3: Equipment and resource checklists
(p103)

Appendix 4: Response checklist: activating a building assessment operation
(p110)

Appendix 5: Cordons and barricades
(p112)

Appendix 6: Health and safety
(p115)

Appendix 7: Resources: memorandum of understanding for assessors; links to field guides, placards and forms, CDEM documents and guidance for building evaluations
(p121)

Appendix 8: Abbreviations and acronyms used in this guide
(p130)

Appendix 1: Relevant legislation

This Appendix provides more details of the main Acts and Regulations relevant to managing buildings in an emergency, as described in Part A section 3 of this guide.

Check the New Zealand Legislation website www.legislation.govt.nz for the latest versions of these.

A1.1 Civil Defence Emergency Management Act 2002

Table A1.1 outlines some of the relevant sections in the CDEM Act.

For more information on this Act refer to www.civildefence.govt.nz

Table A1.1: Some of the CDEM Act sections relating to building assessment

Section	Relevance to building assessment
14	Requires territorial authorities to become a member of a CDEM Group, and work with emergency services and lifeline utilities to manage emergencies in their area. "A territorial authority whose district is completely within the area of a regional council must be a member of the Civil Defence Emergency Management Group of which the regional council is a member."
18(2)(c)	Authorises a territorial authority, as a member of a CDEM Group, to issue and control the use of signs. "Issue and control the use of signs, badges, insignia, and identification passes authorised under this Act, regulations made under this Act, or any civil defence emergency management plan."
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."
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."

Section	Relevance to building assessment
85 and 94H	<p>Section 85 (1) (a) authorises a territorial authority, as a member of a CDEM Group, to carry out works, clear roads and other public places, and remove, dispose of, secure or otherwise make safe dangerous structures and materials.</p> <p>“While a state of emergency is in force in its area, a Civil Defence Emergency Management Group may—</p> <p>(a) carry out or require to be carried out all or any of the following:</p> <ul style="list-style-type: none"> (i) works: (ii) clearing roads and other public places: (iii) removing or disposing of, or securing or otherwise making safe, dangerous structures and materials wherever they may be.” <p>Section 94H gives similar powers to a Recovery Manager during a transition period.</p>
86 and 94K	<p>Section 86 authorises a territorial authority, in a state of emergency under the authority of a Controller, to require the evacuation of any premises or place (including public places).</p> <p>“If a state of emergency is in force and, in the opinion of a Controller or any constable, the action authorised by this section is necessary for the preservation of human life, that person or a person authorised by him or her may direct, within the area or district in which the emergency is in force,—</p> <p>(a) the evacuation of any premises or place, including any public place; or</p> <p>(b) the exclusion of persons or vehicles from any premises or place, including any public place.”</p> <p>Section 94K gives similar powers to a Recovery Manager or constable during a transition period.</p>
88 and 94M	<p>Section 88 authorises a territorial authority, in a state of emergency under the authority of a Controller, to prohibit or restrict public access to roads and public places.</p> <p>“If a state of emergency is in force, a Controller or a constable, or any person acting under the authority of a Controller or constable, or any person so authorised in a relevant civil defence emergency management plan, may, in order to prevent or limit the extent of the emergency, totally or partially prohibit or restrict public access, with or without vehicles, to any road or public place within the area or district in respect of which the state of emergency is in force.”</p> <p>Section 94M gives similar powers to a Recovery Manager or constable during a transition period.</p>
92 and 94H	<p>Section 92 authorises a territorial authority, in a state of emergency under the authority of a Controller, to examine, mark, seize, sample, secure, disinfect, or destroy any property in order to prevent or limit the extent of the emergency.</p> <p>“While a state of emergency is in force, a Controller or a constable, or any person acting under the authority of a Controller or constable, may examine, mark, seize, sample, secure, disinfect, or destroy any property, animal, or any other thing in order to prevent or limit the extent of the emergency.”</p> <p>Section 94H includes powers for a Recovery Manager for “examining and marking any property, animal, or any other thing”.</p>

Section	Relevance to building assessment
110	<p>Provides protection during a state of emergency or transition period from liability for any direct or indirect act or omission of the Crown, CDEM Groups (including officers, employees, or members of those groups and those acting under the direction of the Controller), or other persons, except in cases of bad faith or gross negligence.</p> <p>“Protection from liability</p> <p>(1) Except as provided in sections 107 to 109, there is no cause of action against the Crown, or a Civil Defence Emergency Management Group, or an officer or employee or member of any of them, or against any other person, to recover damages for any loss or damage that is due directly or indirectly to a state of emergency or a transition period.</p> <p>(2) Subsection (1) applies whether the loss or damage is caused by any person taking any action or failing to take any action, so long as the act or omission occurred in the exercise or performance of his or her functions, duties, or powers under this Act.</p> <p>(3) No person is exempted from liability under subsection (1) for any act or omission to act that constitutes bad faith or gross negligence on the part of that person.”</p>

A1.2 Building Act 2004

The Building Act was amended in 2019 to provide a new system for quickly and effectively managing buildings during and after an emergency. This system is activated after an emergency event when an affected area is ‘designated’ for building emergency management under section 133BC of the Building Act.

The Building Act also has general provisions for entering buildings (whether or not an area has been designated for building emergency management) to undertake inspections (section 222). Subsection 222(1) authorises officers of a territorial authority to enter premises for the purpose of inspecting the building or determining whether a building is dangerous, earthquake prone or insanitary. A building can be entered at all times during normal working hours, or while building work is being carried out.

Despite section 222, an officer cannot enter a household unit without the occupier’s permission (section 226 of the Act). If an occupier refuses to allow access, an application must be made for a Court Order to authorise entry. At least 10 days’ notice must be given to the occupier before seeking a Court Order (sections 227 and 228 of the Act).

The Building Act provides for particular notices if a territorial authority assesses a building to be dangerous, earthquake prone, or insanitary. These are not the same as the placards placed on buildings under the authority of the CDEM Act (sections 92 and 94H) during rapid assessments. However, these placards may fulfil the purpose of warning notices under s124(1)(b) of the Building Act.

Table A1.2 describes some Building Act sections relevant to managing buildings in emergencies.

MBIE’s website at www.building.govt.nz has more information.

Table A1.2: Building Act sections relevant to emergency management during a designation

Section	Notification requirement
41	Building consent is not required for measures to keep people at a safe distance and protect buildings, urgent works to remove or reduce risks, or works to remove or reduce other risks
123B	Actions taken in relation to dangerous or insanitary buildings prior to a designation continue to apply
133BC	Sets out when the decision-maker on a designation is the CDEM decision-maker, a territorial authority, or the Minister for Building and Construction, respectively
133BD	Requirements and considerations for making decisions on a designation
133BE	Public notice requirements for designations
133BF	Sets out that a designation expires after 3 years unless extended or terminated sooner
133BG	Sets out that a designation must be reviewed at least once every 90 days, and identifies roles and responsibilities
133BH	Sets out that a designation can be extended only once, for no more than 3 years, and identifies roles and responsibilities
133BI	Circumstances for terminating a designation, and identifies roles and responsibilities
133BJ	Sets out who may exercise building emergency management powers as the 'responsible person'
133BK	Sets out who may exercise specific building emergency management powers as the 'responsible person' when a state of emergency or transition period is in force
133BL	Sets out that Building Act powers take precedence over CDEM Act powers
133BM	Allows a 'responsible person' to determine that previously issued CDEM Act notices continue in force during a designation
133BN	Principles for exercise of powers by responsible persons
133BO	Requirements for exercising power to enter building or land
133BP	Exercise of powers within secured buildings must be in accordance with instructions by the officer in charge of the building
133BQ	Powers and requirements in relation to post-event / rapid building assessments

133BR	Powers and requirements in relation to evacuating buildings
133BS	Powers and requirements in relation to measures to keep people at a safe distance and protect buildings
133BT	Powers and requirements in relation to notices and signs on buildings
133BU	Powers and requirements in relation to directing building owners to give information
133BV	Powers and requirements in relation to urgent works to remove or reduce risks, including requirement to consult Heritage New Zealand
133BW	Powers and requirements in relation to works to remove or reduce other risks, including requirement to consult Heritage New Zealand
133BX	Powers and requirements in relation to works for long-term use or occupation of building
133BY	Resource consent is not required for measures to keep people at a safe distance and protect buildings, urgent works to remove or reduce risks, or works to remove or reduce other risks
133BZ	Powers and requirements in relation to sharing of information with Civil Defence officials
133BZA	Application of building emergency management powers to dangerous, affected, insanitary and earthquake-prone buildings or dangerous dams
153AA	Application of building emergency management powers to dangerous of dangerous dams during a designation
177	Application for a 'determination' on the exercise of building emergency management powers by a responsible person
183	Circumstance under which an application for a determination suspends the exercise of building emergency management powers
185	Timeframes for making decisions on determination applications

Section	Notification requirement
42	Owner must apply for a certificate of acceptance if building work is carried out urgently.
124	Authorises a territorial authority to erect hoardings, fix warning notices to buildings, and give written notice requiring work to reduce or remove danger or remedy insanitary conditions (section 125 prescribes who the notice must be given to).
128	Prohibits the use of the building if a hoarding is erected under section 124.
129	Authorises a territorial authority to take measures to avoid immediate danger or to fix insanitary conditions.
131	Requires territorial authorities to adopt policies on dangerous and insanitary buildings. These policies need to state the approach the territorial authority will take in performing its functions, its priorities in performing those functions, and how the policy will apply to heritage buildings.
216	Requires territorial authorities to keep information about buildings. This should include keeping records of any building assessments.
222	<p>“Inspections by territorial authority</p> <p>(1) An authorised officer is entitled, at all times during normal working hours or while building work is being carried out,—</p> <p>(a) to inspect—</p> <ul style="list-style-type: none"> (i) land on which building work is or is proposed to be carried out; and (ii) building work that has been or is being carried out on or off the building site; and (iii) any building; and (iv) any residential pool (or the immediate pool area); and <p>(b) to enter premises for—</p> <ul style="list-style-type: none"> (i) the purpose of inspecting the building; or (ii) the purpose of determining whether the building is dangerous or insanitary within the meaning of subpart 6 of Part 2; or (iii) the purpose of determining whether the building or a part of the building is earthquake prone or potentially earthquake prone within the meaning of subpart 6A of Part 2; and <p>(c) to enter premises for the purpose of determining whether section 162C is being complied with...”</p>
388	<p>Provides a statutory defence against prosecutions for actions taken in relation to a natural disaster as long as:</p> <ul style="list-style-type: none"> • these actions could not reasonably have been foreseen or provided for, and • their effects were adequately mitigated or remedied after the event.

A1.3 Local Government Act 2002

The Local Government Act may also provide power of entry into buildings if a state of emergency has not been declared or a transition period notified. Section 173 (Power of entry in cases of emergency) provides powers of entry to land and buildings and inspection if there is a sudden emergency causing, or likely to cause:

- loss of life or injury to a person
- damage to property
- damage to the environment
- danger to any works or adjoining property.

A1.4 Heritage New Zealand Pouhere Taonga Act 2014

The Heritage New Zealand Pouhere Taonga Act establishes a framework to protect the historical and cultural heritage of New Zealand. This Act prohibits a protected site from being modified or destroyed unless an authority is obtained from Heritage New Zealand Pouhere Taonga:

- It is an offence to modify or destroy a historic place, historic area, wāhi tūpuna, wāhi tapu, or wāhi tapu area that is protected by a heritage covenant (section 86).
- Likewise, it is an offence to modify or destroy an archaeological site (section 87).

The Act also provides that a decision whether or not to grant this authority must be made promptly during a state of emergency, for 12 months after one is lifted, or for such further time as is reasonably necessary in the circumstances. They provide that any person may make an application to modify or destroy an archaeological site. This application must be determined within three days (five days if the site is of interest to Māori). An emergency authority can be granted without the consent of the owner if the owner cannot be contacted.

If a state of emergency has been declared, section 60(1) of this Act provides an accelerated process for granting an emergency authority to modify or destroy an archaeological site (including demolition of pre-1900 buildings):

“Subpart 3 – Emergency authorities

60 Purpose and application of subpart

- (1) This subpart provides a process for obtaining an emergency authority to undertake an activity that will or may modify or destroy an archaeological site or sites located in an area or a district over which a national or local emergency is declared, or a transition period is notified, under the Civil Defence Emergency Management Act 2002.”
- (2) Unless otherwise expressly provided for, this subpart applies instead of subpart 2 if an emergency authority is sought and granted within 12 months after the state of emergency is terminated under section 72, or the transition period is terminated under section 94E, of the Civil Defence Emergency Management Act 2002, or such further time as is reasonably necessary in the circumstances.

The Act provides that any person may make an application to modify or destroy an archaeological site. This application must be determined within three days, or within five days if the application relates to a site of interest to Māori. An emergency authority can be granted without the consent of the owner if the owner cannot be contacted.

The Act also establishes that one of the functions of Heritage New Zealand Pouhere Taonga is to provide advice on heritage matters in the event of a national or local emergency (section 13(1)(g)). In determining whether to grant an emergency authority, Heritage New Zealand Pouhere Taonga will take account of factors including the:

- need to protect public health and safety
- historical and cultural values of the site
- effect on Māori cultural values, and
- views of the owner, if these can be ascertained.

A1.5 Health and Safety at Work Act 2015

The Health and Safety at Work Act places duties on employers, employees, and others in a position to manage or control hazards. Territorial authorities have a duty to take all practicable steps to ensure the health and safety of rapid building assessors while at work. Assessors also have a responsibility under this Act.

WorkSafe's website <http://www.business.govt.nz/worksafe/> has more information about relevant health and safety obligations.

Also refer Appendix 6 of this guide.

A1.6 Fire and Emergency New Zealand Act 2017

The Fire and Emergency New Zealand Act allows for urgent actions in the event of fire or other emergency. It permits the Chief Fire Officer to enter land and premises and, if necessary, shore up or pull down any building or structure (or any part of these) he or she considers has been damaged such that it is, or is likely to be, dangerous to life or property.

The **Fire Safety and Evacuation of Buildings Regulations 2016** provide for specific building evacuation plans to be approved with Fire and Emergency New Zealand.

A1.7 Resource Management Act 1991

Under the RMA the adverse environmental effects of siting, constructing, maintaining and demolishing buildings are controlled on an everyday basis. The RMA also contains provisions allowing for emergency works and powers to take preventive or remedial action (sections 330 and 330A) under the Act, and also Civil Defence Emergency Management Act 2002 (section 330B). These works and powers could be required to undertake urgent actions to manage a building in an emergency when standard consenting requirements cannot be adhered to.

Appendix 2: Readiness checklist

(Refer to Section 4)

Readiness step one: understand the legal context

- Establish and record legal basis for the proposed activities
- Develop policy statements for the likely scenarios, for example historic building demolition
- Ensure delegations framework makes it clear who is authorised to request a designation, and ensures the Building Response Manager and any other relevant officials are authorised to exercise building emergency management powers (including rapid building assessments) during a designation.

Readiness step two: develop an operating structure

- Prepare the operating structure and how teams will report
- Identify key roles
- Define specific roles and responsibilities
- Identify people for key roles
- Specify the composition of teams
- Identify support staff
- Decide how to contact key people in an emergency

Readiness step three: identify an operational base and other facilities

- Identify and arrange for a building to serve as the assessment coordination centre
- Arrange for office equipment
- Identify a second building as an alternative coordination centre
- Establish a responder assembly point
- Identify the public contact centre(s)

Readiness step four: gather information about buildings, critical infrastructure and the environment

- Identify and locate all key facilities, and premises storing or using hazardous substances
- Ensure earthquake-prone building and critical structural weakness building records and files are up to date
- Prepare a default priority list of buildings and sites to check as part of the initial building assessment response
- Annually cross-check the priority list of buildings against a list of key facilities and infrastructure with priority response agreements in place
- Have an understanding of how the bigger building owners intend to cover their assessment needs and identify overlaps
- Establish realistic risk damage scenarios

Readiness step five: develop a building assessment plan

- Clearly define authority and scope (for example, linkage back to the territorial authority emergency procedures)
- Develop links with other parties, such as Operations, Welfare and Logistics Managers, and other agencies, such as Heritage New Zealand Pouhere Taonga

- Maintain mutual aid agreements for additional building control and other resources
- Maintain a list of locally available trained building assessors (building control officials, engineers, others)
- Maintain contracts for emergency work (shoring, demolition, hoardings, containers, cordons, secure storage, and debris dump sites)
- Arrange for ongoing training for local building assessors
- Arrange ongoing training for administrative staff
- Establish information management systems to capture data and provide rapid building assessment data management reports and maps for the Controller and Building Response Manager. Ideally, use business-as-usual systems. Ensure the standard rapid building assessment database workbook is stored on an accessible data stick or geographically separated alternative system.
- Establish a plan for requesting and coordinating volunteer assessors, and for funding contracted services once outside the three-day volunteer period
- Establish a method for tracking assessors, eg as a sign-in and sign-out register including assigned area of operation
- Have a plan for control at cordon access to enable assessment within cordons
- Compile critical pre-event data so that post-event data can be easily compared
- Establish who will manage and fund the collection of critical post event data such as aerial photography and LiDAR

Readiness step six: gather resources

- Assemble background information for inspections (maps and building-specific information)
- Prepare and stockpile forms and placards
- Prepare induction packages
- Provide for resourcing all assessors
- Arrange adequate communications (temporary telephones, radios)
- Plan for transportation requirements
- Prepare information for building owners, occupiers and the public (coordinate with welfare services agencies)

Readiness step seven: identify people with specialist skills

- Train local building control staff (Tier 2 and Tier 3) to match local requirements
- Identify local trained building assessors
- Identify local consulting engineer contractors
- Identify specialist building knowledge requirements
- Identify any gaps in available local knowledge and maintain a contact list of external specialists
- Identify local facilities that could be used to accommodate people from outside the district
- Identify emergency response service providers
- Consider supporting functions including procurement, legal, financial and communications; arrange for external assistance as required
- Plan for and trial likely scenarios

Appendix 3: Equipment and resource checklists

A3.1 Resource checklist: Emergency Operations Centre

Note: If the building assessment operation is not part of the Emergency Operations Centre, use this checklist for office requirements.

- Food
- Water
- Tables and chairs
- Communications equipment
- Whiteboards and markers
- Mounting putty and butcher's paper
- Office supplies
- Placards and assessment forms
- Photocopier (coloured weather-resistant paper for printing placards)
- Printers and computers (including, as appropriate, capability for assessment app download)
- Generator
- Means of amplification to brief hundreds of assessors (induction pack)
- ID card reader (and ID card printing machine, if required)
- Toilets, toilet paper, and other sanitary supplies
- Spare assessor personal equipment (for example, hard hats, safety footwear, high-visibility vests, torches, safety glasses, safety gloves, face masks)
- First aid kits
- Batteries

A3.2 Resource checklist: territorial authority to supply to each assessment team

- Vests for leadership staff
- Location of the EOC on a map and by coordinates, and details of the EOC layout
- Meeting and debrief facilities
- Contact information for the known managers and a structure for the response team
- Briefing sheets with an outline of the rapid assessment procedure, reporting requirements, contact points, communications arrangements, first aid, health and safety
- Official photo identification/authorisation (secure clip-on badges, lanyard or similar)
- Communication radios
- Relevant field guide to rapid assessment
- Information about the area, including an overall map on which assessors can circle the affected area during briefings, large-scale street maps or photo maps of assigned areas, aerial photographs, hazard register, and building-specific information
- Security cordoning or barrier tape and spray paint
- Placards and means to secure (such as thumb tacks, plastic sleeves, duct tape)
- Indelible marker pens (fine: 4 black, 4 red) for marking the placards (note that ballpoint pens are not reliable in rain and fade under sunlight)
- Forms for Level 1 rapid assessments (assess number of forms required for each team)
- Forms for Level 2 rapid assessments (assess number of forms required for each team)
- Clip boards x2 (inside a plastic bag big enough to write inside when raining); paper pad, pencils
- Information handouts for occupants (including support agency referral information)
- Tablets or software (optional)/USB sticks
- Spare batteries and chargers for electronic equipment supplied by the territorial authority
- First aid kit, disposable face masks
- A one day ration of emergency food and water
- Food and accommodation (unless told otherwise)

Note: The forms, database, and area information may be provided on a digital data recording device (iPad, tablet, as available) preloaded with street maps, geotechnical hazard maps, photos, and building data. Alternatively, you can provide a USB stick with the data that can be loaded on to an assessor's laptop or tablet. It is best if the team is familiar with the device, the data, and also with the applications for recording, communication, and downloading. Hard copies of assessment forms will not be required if data entry is via a rapid building assessment app.

A3.3 Resource checklist: building assessors to supply

This checklist is for items the building assessors responding to an event should supply (as also outlined in the field guide). Include this list in the email confirmation you send to them.

- Proof of identity (organisational ID card or driver's licence, Tier 2 Rapid Assessor ID)
- Hard hat, high-visibility vest, steel-capped boots or shoes
- Wet weather gear
- Other personal protective gear where considered necessary (for example, gloves, dust mask, eye protection)
- Backpack for equipment and supplies
- Clipboard
- Laptop or tablet (if needed)
- Mobile phone and charger
- Digital camera and charger (a mobile phone camera with high resolution may be effective and can enable immediate sharing of a photo, if the mobile network and internet is operating and you can connect)
- Torch and batteries
- Tape measure and claw hammer
- First aid kit
- Travel kit, including medication, sleeping bag, warm clothes, rain jacket, tooth brush, and so on
- Binoculars

Appendix 4: Response checklist – activating a building assessment operation (Refer to Section 5)

Response step one: Building Response Manager activates the assessment plan

- Activate the territorial authority's building assessment plan, amending it as needed to match the nature of the particular emergency and the Controller's requirements
- Set up an operations log for recording all key decisions and briefing/debriefing times

Response step two: mobilise key people to manage the assessments

- Consider the nature and extent of the emergency, including key facilities affected and any geotechnical concerns
- Decide suitable operating structure and key roles (eg for recruiting and inducting building assessors; for briefing and coordinating assessment teams; data capture and IT support; wellbeing support; separate critical building team if severe damage)
- Liaise, through the Controller, with MBIE for support as necessary

Response step three: plan the rapid building assessment operation

- Decide the approach – set overall assessment priorities with guidance from the Controller and community leaders
- Seek advice on likely ongoing nature of hazards and geotechnical risks (eg from GNS Science, NIWA, MBIE)
- Establish specialist geotechnical group if required
- Decide which buildings to assess first (eg from list of prioritised buildings and information gathered by first responders)
- Make a preliminary estimate of the number of assessors required – base this on the number of buildings within the initial area identified for the rapid building assessment operation
- Determine the extent of assessments likely to be required (eg Level 2 assessments for prioritised buildings, Level 1 for other buildings)

Response step four: establish supporting services

- Provide a data collection system for assessment results (liaise with the territorial authority IT Manager if system not established in advance)
- Gather material for assessors (eg food and drink as appropriate, field guides, personal protective equipment, maps, placards etc) and establish field support
- Consider health and safety responsibilities; make sure system in place for recording who is assigned to which area and ensuring assessors log in and out each day
- Establish access to legal advice; liaise with communications staff for key messages
- Prepare for liaison with stakeholders including: the CDEM Operations Manager about cordons and barricades; those affected regarding any urgent stabilisation or demolition works; Heritage New Zealand Pouhere Taonga; commercial building owners (who may commission their own engineering assessments); and the professional engineering community

Response step five: mobilise rapid building assessors

- Locate and engage the required number of trained assessors (primarily from MBIE's Tier 2 list), using the memorandum of understanding in Appendix 7
- Ask MBIE if help needed to identify more assessors, or for more support for the management of the operation

Response step six: get the building assessments underway

- Establish assessment teams (ideally three-person teams including two technical staff and led by a Tier 1/Tier 2 trained assessor); include geotechnical expertise as required
- Check and provide suitable identification for assessors (Tier 1 and Tier 2 should already have MBIE-issued identity cards); provide them with other necessary equipment
- Deploy assessment teams and mark their allocated areas on an overall map
- Organise daily briefings and debriefings; check that assessors log in and out daily
- Record and collate the assessment results; organise quality check before uploading data to ensure a consistent approach across assessment teams

Response step seven: manage the ongoing operation

- Manage cordons, barricades and any other measures to protect buildings or keep people at a safe distance – the Building Response Manager should support the Controller by providing advice and information collected from assessments
- Manage building placards: change or remove these as necessary; issue Building Act notices as required
- If further damage is likely, identify and use indicator buildings to provide systematic monitoring
- Monitor the assessment operation using feedback from completed assessments and any indicator buildings; revise nature and scope of the operation where needed; seek more detailed building evaluations as required
- Consider urgent works such as stabilisation or demolition works to any severely damaged buildings on advice from specialist critical building team

Response step eight: manage communications

- Communicate progress throughout, including keeping the Controller updated on the status of the building assessment operation and assessment results
- Connect with the Welfare Management and Public Information Management functions to enable relevant support for people affected by an emergency and consistent information resources
- Provide information for assessors to give to building owners, contact details for other queries (eg to a call centre), and where to direct media enquiries.

Appendix 5: Cordons and barricades

A5.1 Cordoning – example checklist

- In conjunction with emergency services, recommend to the Local Controller to establish any cordon(s), detailing cordon plan and boundaries
- Hold a planning session with appropriate agencies, the Building Response Manager, Operations Manager, USAR, New Zealand Police, and Fire and Emergency New Zealand (including USAR) to determine whether occupants within the cordon need to be evacuated
- Determine with Logistics/Operations and New Zealand Police how any cordons will be put into place on the ground while fencing and barrier needs are arranged
- Work with Logistics to supply and place fencing, barricades, and secure storage for valuable property, and access to appropriate storage for debris from demolition and secure storage for debris that requires forensic review
- If size and/or the number of personnel required to control the cordon exceeds operational resources, consider where to get additional cordon control staff (consider Parking Enforcement, Park Rangers, general enforcement staff, New Zealand Police, and New Zealand Defence Force)
- Place fences and cordon access points
- Arrange a cordon access pass process

A5.2 Barricading for public safety – guidelines

A5.2.1 Set up barricades at an appropriate distance

Decide how far from the building to set up the the fence/hoarding/barricade.

The distance between the barricade and the building will depend on the type of potential failure. As a general guideline:

- If the total building may fail, base the distance on the total height of the building.
- If the top storey only may fail, base the distance on the height of the top storey.
- If the parapet only may fail, consider allowing a distance of two metres from the veranda fascia, or three metres from the building.
- If the building is an unreinforced masonry construction, consider multiplying the above distances by 1.5 (bricks tend to splay outwards upon hitting the ground).

Also consider the mass of material in any potential failures. Add the base width of the potential material pile to the distances given above.

If geotechnical hazards have been identified, an impact assessment will be required that addresses the scale of the geotechnical hazards.

A5.2.2 Set up barricades to minimise disruption

Consider how fences/hoardings/barricades will interact with traffic and pedestrians. The further the barricades are from the building, the greater the potential for conflict. The key driver is public life safety, which means barriers are often required in locations that disrupt other activities. It is important to make information about the barrier impact available to the Controller.

Factors to take into account include:

- the volume of traffic and pedestrians at peak periods
- the complexity of the route that passes the building: road alignment, cross roads, traffic lights etc
- whether different levels of protection are needed for pedestrians, people with disabilities, cyclists, and motorists. For example, you may need to direct pedestrians to the other side of the road, provide more pedestrian crossing points, or have a barricade system that alerts visually-impaired pedestrians.

Also consider the potential for conflict with remedial work on roads, services and buildings. Find out whether traffic management plans (TMPs) will be provided and approved for such activities. A TMP can give information that will help decide where to put the barricade, and what kind of barricade to use.

A5.2.3 Set up barricades inside buildings where necessary

If a building has a yellow (access restricted) placard, put up fences/hoardings/barricades or hazard tape to mark off any areas that are considered unstable. When placing barricades inside buildings do not place them too close to a hazard. For example, consider that glass and brick walls can shatter in aftershocks.

A5.2.4 Use the appropriate kind of barricade

Use the appropriate fence/hoarding/barricade for the circumstances. Options include:

- shipping containers – if stacked the bottom layer(s) may need to be filled with sand/water/concrete for ballast and the containers may need to be braced together
- concrete ballast blocks
- temporary road barriers
- wire fences
- cones
- tape.

The simpler the barricades, the more easily they can be moved, including by people who are not authorised to move them. Structural engineers are best placed to decide on what should be barricaded and the appropriate method.

It is suggested to be conservative in selecting and placing barriers, recognising that both the hazard and the barrier could deteriorate between inspections.

A5.2.5 Review barricades regularly

Fences/hoardings/barricades should be reviewed daily by vehicle and a couple of times a week on foot.

To do this review, check the database to see which buildings needed barricading. Do not depend on the existence of a placard to confirm that a barricade should be there. If someone unauthorised has moved the barricade, the placard may also have been removed.

Appendix 6: Health and safety

A6.1 For territorial authorities and rapid building assessment team leaders

A6.1.1 Health and safety in the workplace

The Health and Safety at Work Act 2015 (HSW Act) aims to promote the health and safety of everyone at work and of other people in or around workplaces. It requires people who are responsible for workers and those who do the work to protect their own health and safety and that of others.

In a rapid building assessment operation before an event, it's difficult to pre-determine hazards that may be encountered in the field. Although the actual event will provide a better level of knowledge of the hazard, it remains difficult to be comprehensive. It is important to consider the risks at the daily briefing meetings before deploying building assessors into the field.

All practicable steps

The phrase 'all practicable steps' is a key concept in the HSW Act. This Act places a duty on employers, employees and volunteers at work to take all reasonably practicable steps, in circumstances they know or reasonably ought to know about, to ensure their own safety and that of others. 'All practicable steps' describes the standard a person must meet when carrying out duties under the Act.

In relation to those things you know about or reasonably ought to know about, 'all practicable steps' means those steps that it is reasonably practicable to take:

- A step is practicable if it is possible or capable of being done.
- 'Reasonably' means that you do not have to do everything humanly possible; you only have to do what a reasonable and prudent person would do in the same circumstances.
- Whether a step is reasonably practicable takes into account:
 - the nature and severity of any injury or harm that may occur
 - the degree of risk or probability of injury or harm occurring
 - how much is known about the hazard and the ways of eliminating, isolating, or minimising the hazard
 - the availability and cost of safeguards.

When leading a rapid building assessment operation:

- only use trained assessors who will have had basic health and safety training
- ensure that the induction covers the known risks that have been identified
- do not deploy staff or volunteers without personal protective equipment
- do not deploy staff or volunteers on their own – always deploy them in teams
- encourage active reporting of new risks

- ensure that the whereabouts of assessors is known by having them login when assigned an assessment area and logout once complete. This should occur each day with each reassignment
- encourage people not to take risks going into buildings with uncertain status
- ensure that teams are reminded to look up, as hazards can come from above as well as on the ground
- ensure that assessors are reminded to look for hazardous chemicals signs
- provide teams with contact details for people who can get the power or gas turned off
- record details of assessor deployment and ensure all are accounted for each day.

Health and safety precautions for assessors

Assessing buildings to determine whether they pose a risk to public safety is inherently dangerous. Assessors are expected to use personal protective equipment, attend deployment briefings, and work in teams.

Deployment briefings need to cover health and safety. Do not deploy assessors unless they have their personal protective equipment.

A6.1.2 Resolving conflict and managing stress

Suggested approaches to solving conflict

Team leaders are responsible for monitoring conflict that arises between staff.

The **avoidance** approach is simply to ignore the conflict, or at least not put any attention into trying to do anything about it. In certain situations where the conflict is trivial, this might be appropriate. The avoidance approach carries the risk of the conflict not being resolved successfully within the desired timeframe, or becoming larger so that it will take more skill and time to resolve.

Giving it back to those involved differs from avoidance in that the parties involved are charged with determining the solution within a certain timeframe. However, team leaders need to monitor the situation and not assume it has been successfully resolved. Team leaders should try and mediate a resolution or forward the issue to the Building Response Manager to handle.

Imposing a solution (authoritative) is when the Building Response Manager listens to both parties and unilaterally decides a solution, announces it to those involved, and makes sure they understand which solution has been chosen. This alternative may have to be used in a disaster situation when the time is short and the Controller clearly knows what solution he or she wants.

With **compromise**, all parties think about their side of the issue and their critical needs, and then identify and accept the minimum they can live with to resolve the conflict. The goal is to stop the conflict, rather than thoroughly work through the issues to keep something similar from happening again.

Collaboration has each side working hard at stating their concerns, their goals, and their needs in the conflict situation, and then listening to the other party do the same. The goal is to work through the conflict to a genuinely satisfactory outcome.

Managing staff under stress

The Building Response Manager must be constantly aware of the working conditions and stressful events that could affect people's ability to function. Be familiar with ways to help employees cope with stress.

Table A6.1 describes different debriefing types.

Table A6.1: Four debriefing types

Type	Description
Hot debriefing	A debriefing can help emergency personnel cope with an incident. It is commonly held at the end of a shift to review operational procedures and identify immediate areas requiring attention or changes.
Defusing	A defusing is a much shorter, less formal, and less structured version of a critical incident stress debriefing (described below). A defusing is held within a day or two of the event, and usually lasts about 30 to 45 minutes. Qualified personnel manage it. The defusing only involves the most seriously affected members who experienced the emotional event. Its purpose is to allow the affected personnel to express their feelings and to prepare them to go back to work. A defusing is a short-term fix for an immediate reaction to a troubling event.
Critical incident stress debriefing (CISD)	A CISD is a group meeting conducted in a confidential environment that provides a forum for individuals to vent their emotions and express their reactions to the event. Two major goals of a CISD are to reduce the impact of a critical event and to accelerate the recovery of people who have experienced a traumatic event.
Post-operation debriefing	Soon after the end of the EOC mobilisation and response operation, the agencies involved will be invited to attend a formal debriefing with a view to improving response capabilities within the jurisdiction and capture key learnings. To facilitate that meeting, which may not be attended by all building assessment personnel, it is important to make sure that significant operational information has been evaluated by those actively involved, and that an accurate written record of the operation has been kept.

A6.2 For rapid building assessment teams

Although field safety is detailed in the field guides, territorial authorities and rapid building assessment team leaders should ensure that their teams are familiar with the health and safety information in this section and emphasise health and safety in the daily briefings.

A6.2.1 Entering and exiting buildings safely

Before entering a building, the building must be assessed for risks:

- Is the building stable or unstable?
- Have all points of entry and exit been identified?
- Are there specific hazard risks to entry and (particularly) to exit?
- What are the options for mitigating such risks?

Assess the building before entering

Assess the building from the exterior:

- Look for signs of damage, instability, and fall hazards such as loose parapets, awnings, or signage.
- Identify the architecture and structural form.
- Identify building materials and standards.
- Compare the building with similar buildings and how they performed in the event or similar events.
- Identify any damage or degrees of collapse.
- Look for geotechnical hazards such as boulders, cliff debris, land cracking, water seepage, leaning trees, and so on.
- If damage has been caused by an earthquake, consider the risk of an aftershock causing further damage.

Decide whether or not to enter

Given this assessment, should the building be entered (**GO**) or should additional appropriate resources be called for, such as Fire and Emergency New Zealand or Urban Search and Rescue (USAR) technicians, to mitigate the risks or to assess the building?

The three building assessment statuses are:

- a stable building that does not need shoring (**GO**)
- an unstable building that needs to be stabilised by shoring or other measures – report the need to your Building Response Manager or nominee, as stabilisation work needs resources beyond those of the building assessment team (**NO GO**)
- an extremely unstable building that is in a state beyond stabilisation with available resources (**NO GO**).

Continue to assess risk while you are inside

The damage and hazard risk assessment process continues constantly during entry and interior inspections. Discuss appropriate mitigation actions collectively with other team members who are inside with you. If you decide to change actions, such as planning to use a newly discovered exit, communicate these changes to the external 'team watcher'. The team watcher will do an external check for hazard risks at the proposed exit.

A6.2.2 Hazard management

This section contains information to help assessors understand the types of dangers to watch for and how to clearly mark hazards and record hazard information.

Watching for dangers

- Smell gas, shut off the gas (if it is possible to identify the correct gas valve) and cordon the area.
- Avoid downed power lines and any buildings in contact with downed power lines.
- In case of fire, evacuate the area.
- Be constantly alert to falling debris or other hazards outside of or within buildings; constantly monitor potential escape routes.
- On sloping ground and particularly for steep terrain, be constantly alert for any slope instabilities (or signs of impending instability) or falling objects, including rocks; constantly monitor potential escape routes.
- Take care following earthquakes and aftershocks; any instability may have been worsened. Note that the time and character of aftershocks can't be predicted with any accuracy.
- Following flooding or other sources of inundation, be alert to rising waters and escape routes.

Advising immediate danger

If the person on watch outside the building sees a danger, they should signal evacuation with three short audio signals of one second each. Repeat these signals until the site is cleared. The site is cleared when the entire team is accounted for, along with any others known to be in the building or area at risk.

If they believe someone may be trapped, they should advise the Building Response Manager immediately.

Watching for hazardous substances

Hazardous substances may have been released during the event. To see whether hazardous substances were present, look for relevant labelling and signs, such as those described in the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Signs should be on the building at points of entry if the building contains, or has contained, hazardous substances. If you suspect that hazardous substances are present, avoid the area and report this promptly.

Reporting hazards

The event will cause new, localised, unknown hazards.

As you come across hazards, report them. This will allow the territorial authority to build up information about where, what and how serious such hazards are. This information will become more detailed and more accurate as reports arrive from rapid impact assessment surveys, sector surveys and rapid building assessments. Before being deployed in any response task, the team of building assessors needs to be briefed on known and possible risks in the area.

Dealing with emergencies

If there are immediate serious dangers to health and life of the public and no other suitable help is available (such as Fire and Emergency New Zealand including USAR, or the New Zealand Police), address the danger situation. Give first aid if needed.

Never compromise your own safety.

Appendix 7: Resources

This Appendix includes:

- a memorandum of understanding for engaging rapid building assessors
- links to other useful resources (field guides, placards and forms, CDEM documents, and guidance for further building evaluations).

A7.1 Memorandum of understanding for assessors

Memorandum of understanding for engineers, geologists and architects volunteering to assist territorial authorities in a state of emergency or transition period, or when an area has been designated for building emergency management

The purpose of this form is to provide standard agreement conditions for building assessor volunteers to assess the usability of buildings during a state of emergency or transition period.

<p>A The parties</p> <p>Between</p> <p>(name of the CDEM Controller or delegate or Building Response Manager)</p> <p>And</p> <p>(name of person engaged and their qualifications)</p> <p>Situation Location</p>
<p>B Scope and nature of services</p> <p>Rapid building assessments in the interests of public safety per the MBIE guidelines</p> <p>Or specify below</p>
<p>C Duration of services</p> <p>Start date until date; or for the maximum period of three days</p>

D Information or Services to be provided by the TA

- (i) The territorial authority will provide the building assessor with the means of identification to authorise them to do this work or they will use the MBIE-issued identification as an authorised rapid building assessor
- (ii) The territorial authority will ensure the building assessor is provided with appropriate safety equipment and will be supported by at least one other person in the field
- (iii) The territorial authority will ensure that the building assessor is provided with the standard assessment forms and placards as required
- (iv) The territorial authority will have procedures in place for tracking deployed engineers or registered architects
- (v) The territorial authority will ensure that the building assessor is briefed by the rapid building assessment team before deployment on the procedures in place
- (vi) The territorial authority will ensure building owners are advised that Detailed Damage Evaluations are to be subsequently and separately arranged by owners

E Information or actions binding on the building assessor

- (i) The building assessor will follow the instructions of the Civil Defence Controller or their delegate such as the Building Response Manager or emergency services personnel or in event of no declared emergency the nominated Building Response Manager
- (ii) The building assessor verifies that the qualifications stated in G below and in relation to the prior training are correct
- (iii) The building assessor will not operate outside their field of expertise unless under the supervision of another suitably qualified building assessor
- (iv) The building assessor will not pass judgement on any facility that is known to be covered by a priority response agreement unless this is specified under B above
- (v) The building assessor will not release confidential information received in the execution of these duties to any other party or for any other purpose save for the Rapid Building Assessment for this event
- (vi) The building assessor will not talk to the media or make any public statement unless authorised to do so during or after the work

F Special conditions (additional conditions if any to be specified here)

G Prior training

This building assessor confirms they have attended training sessions on Rapid Building Assessment procedures

Yes/No – if Yes specify date of course

H Signed by:	
For the territorial authority on behalf of the Controller or delegate or Building Response Manager	For building assessor
Name	Name
Signature	Signature
Date	Date
	Registration #

Notes to Memorandum of Understanding

1. The territorial authority and the building assessor agree that the services are acquired during a declared state of local or national emergency or transition period, when an area has been designated for building emergency management, or if there is a situation that requires rapid building assessment. The legislative basis is the Civil Defence Emergency Management Act 2002 or section 133BC of the Building Act 2004. This agreement relates only to the special case of procuring rapid assessments of usability of structures in the context of public safety, or if there is a situation that requires Rapid Building Assessment of usability but a state of emergency is not declared.
2. This agreement is for provision of engineering or architectural services to a territorial authority for the purpose of assisting in assessment of the usability of structures. It does not apply to those personnel working for USAR taskforce, or other rescue team.
3. It is understood by both parties that these services are provided in a voluntary capacity for the duration as specified above, under conditions of a state of emergency or an undeclared event that requires rapid building assessments. There will be no remuneration for this work. Expenses incurred for travel and accommodation will be met by the territorial authority.
4. Should work proceed beyond the duration indicated or for purposes other than emergency response, a commercial contract will be signed.
5. The building assessor shall perform services for assessment of the usability of structures in accordance with rapid building assessment guidelines as produced by MBIE. No other services shall be supplied without express instructions from the territorial authority.
6. In providing the services, the building assessor shall exercise skill, care, and diligence expected of a competent professional. The building assessor should advise the territorial authority of any training or knowledge they have of building usability assessment systems as in (5) above.
7. The territorial authority shall assist in providing to the building assessor the cooperation of other emergency management personnel and equip him/her as appropriate. This includes providing identification and safety equipment, and providing induction in the territorial authority's emergency procedures, as in (D).
8. The territorial authority will ensure that the building assessor is accompanied by another person (not necessarily an engineer or architect) and that communication and tracking procedures are explained and accepted by the building assessor and his/her accompanying person(s).
9. The building assessor completing these tasks is aware of the special safety issues associated with entering or approaching the buildings or other structures.

10. The territorial authority shall provide to the building assessor any information in its power to obtain that may relate to the services.
11. Neither the engineer nor registered architect nor territorial authority will be liable for operating without full information, where it would be impractical to obtain it within the timeframe necessary to complete the assessment.
12. The building assessor is protected from liability under Section 110 of the Civil Defence Emergency Management Act 2002, or under section 390 of the Building Act during a designation, in respect of his or her services carried out under the direction of the CDEM Controller or the Building Response Manager, including liability for health and safety, or will be indemnified by the territorial authority in the case of a non-declared or notified event.
13. The building assessor shall not be considered liable for any loss or damage resulting from any occurrence during the period where the services are undertaken under the direction of the CDEM Controller or delegate or the Building Response Manager.
14. The building assessor will not assume any obligation as the 'client's agent' or otherwise pursuant to the Health and Safety at Work Act 2015 arising out of this engagement. The territorial authority will be the person who controls the place of work. The building assessor will act in a considered manner regarding his/her own safety in any area that is, by measure of the emergency situation, a hazardous area.
15. The provisions of the Consumer Guarantees Act 1993 do not apply.
16. Either party may suspend all or part of the services by notice to the other party. It is understood that these services are undertaken under emergency conditions and circumstances as to the building assessor's availability, the nature of the situation, or the requirements of the controlling authority, may change.
17. This agreement is governed by New Zealand law; the New Zealand courts have jurisdiction in respect of this agreement.

A7.2 Field guides

Name	URL
Rapid post disaster building usability assessment – earthquakes	https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/rapid-post-disaster-building-assessment-earthquake/
Rapid post disaster building usability assessment – flooding	https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/rapid-post-disaster-building-assessment-flooding/
Rapid post disaster building usability assessment – geotechnical	https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-resources/rapid-post-disaster-building-usability-assessment-geotechnical/

A7.3 Placards and assessment forms

Name	URL
Rapid assessment forms (earthquake, flood, geotechnical) and placards (red, yellow, white)	https://www.building.govt.nz/managing-buildings-in-an-emergency/rapid-building-assessment-resources

A7.4 Building Amendment Act forms

Name	URL
Territorial authority request for approval to designate an area	https://www.building.govt.nz/assets/Uploads/managing-buildings/territorial-authority-request-for-approval-to-designate-an-area.pdf
Territorial authority request for approval to extend an area designation	https://www.building.govt.nz/assets/Uploads/managing-buildings/territorial-authority-request-for-approval-to-extend-an-area-designation.pdf
Form for directing owner to give information	https://www.building.govt.nz/assets/Uploads/managing-buildings/form-directing-owner-to-give-information.docx
Form for directing owner to carry out works to remove or reduce risks	https://www.building.govt.nz/assets/Uploads/managing-buildings/form-directing-owner-to-carry-out-works-to-remove-or-reduce-risks.docx
Form for directing owner to carry out works for long-term use or occupation of a building	https://www.building.govt.nz/assets/Uploads/managing-buildings/form-directing-owner-to-carry-out-works-for-long-term-use-or-occupation-of-building.docx

A7.5 CDEM documents

Name	URL
Ministry of Civil Defence & Emergency Management website	http://www.civildefence.govt.nz/
National Civil Defence Emergency Management Plan 2015	https://www.civildefence.govt.nz/cdem-sector/plans-and-strategies/national-civil-defence-emergency-management-plan/
Guide to the National Civil Defence Emergency Management Plan 2015	https://www.civildefence.govt.nz/cdem-sector/plans-and-strategies/guide-to-the-national-civil-defence-emergency-management-plan/
CDEM Group plans	https://www.civildefence.govt.nz/cdem-sector/cdem-groups/
The 4 Rs	https://www.civildefence.govt.nz/cdem-sector/the-4rs/
Guidelines	https://www.civildefence.govt.nz/cdem-sector/guidelines/
Emergency Movement Control (Director's Guideline, DGL 18/15)	https://www.civildefence.govt.nz/assets/Uploads/logistics-dgl/DGL-18-15-Emergency-Movement-Control-PDF.pdf
Working from the Same Page: Consistent Messages for CDEM	http://www.civildefence.govt.nz/cdem-sector/consistent-messages-for-cdem/
Response Management: Director's Guideline for CDEM Group and Local Controllers	https://www.civildefence.govt.nz/cdem-sector/guidelines/response-management/

A7.6 Guidance for further building evaluations

Name	URL
Interim Use Evaluation (IUE)	<p><i>Guidance for engineers assessing the seismic performance of non-residential and multi-unit residential buildings in Greater Christchurch</i> (refer section 5.3)</p> <p>https://canterbury.royalcommission.govt.nz/documents-by-key/20120615.4553</p>
Detailed Damage Evaluation (DDE)	<p><i>Guidance on Detailed Engineering Evaluation of Earthquake Affected Non-residential Buildings in Canterbury</i></p> <p>Draft guidance prepared by MBIE's Engineering Advisory Group and available at the SESOC website (check for updates)</p> <p>http://sesoc.org.nz/images/Detailed-Engineering-Evaluation-Procedure.pdf</p> <p>Note: This guidance refers to 'detailed engineering evaluation', which was a term specific to the evaluations carried out in Canterbury following the 2010/11 earthquakes. This type of evaluation was subsequently renamed a 'Detailed Damage Evaluation'.</p>
Targeted Damage Evaluation (TDE)	<p><i>Engineering Guidelines for Targeted Damage Evaluation following the November 2016 Kaikōura Earthquakes</i> (SESOC and NZSEE document)</p> <p>http://www.sesoc.org.nz/public_resources/Wellington-Targeted-Damage-Evaluation-Guidelines.pdf?285</p>

Appendix 8: Abbreviations and acronyms used in this guide

BOINZ	Building Officials Institute of New Zealand
Building Act	Building Act 2004
CDEM	Civil defence emergency management
CDEM Act	Civil Defence Emergency Management Act 2002
CIMS	Coordinated Incident Management System
CISD	Critical incident stress debriefing
CPEng	Chartered Professional Engineer
DDE	Detailed Damage Evaluation (formerly Detailed Engineering Evaluation, DEE)
Designation/designated area	The designation of an area for building emergency management under section 133BC of the Building Act
ECC	Emergency Coordination Centre
ENZ	Engineering New Zealand (formerly IPENZ)
EOC	Emergency Operations Centre
EQC	Earthquake Commission
FENZ	Fire and Emergency New Zealand
GHS	Globally Harmonized System Of Classification And Labelling Of Chemicals
IUE	Interim Use Evaluation
LIDAR	Light Detection and Ranging
LINZ	Land Information New Zealand
MBIE	Ministry of Business, Innovation and Employment
MOU	Memorandum of Understanding

National CDEM Plan	National Civil Defence Emergency Management Plan Order 2015
NCMC	National Crisis Management Centre
NEMA	National Emergency Management Agency
NZGS	New Zealand Geotechnical Society
NZRT	NZ Response Team
NZSEE	New Zealand Society for Earthquake Engineering
PPE	Personal protective equipment
SESOC	Structural Engineering Society New Zealand
TA, TAs	Territorial authority, all territorial authorities
TDE	Targeted Damage Evaluation
TMP	Traffic management plan
USAR	Urban Search and Rescue
4 Rs	The four phases of emergency management: Risk reduction, Readiness, Response, Recovery

