

# Post Disaster Building management overview

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**Draft 0.1, 16 December 2013**

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## Version

| Version | Revisions     | Date       | Author    |
|---------|---------------|------------|-----------|
| 0.1     | Initial draft | 16/12/2013 | Ann Clark |
|         |               |            |           |
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|         |               |            |           |

## Audience

Civil Defence and Emergency Managers, Building Control Managers, Territorial Authorities, Ministry of Civil Defence and Emergency Management, MBIE, IPENZ, BOINZ, NZRAB, Building Officials, Engineers, and Architects, Property Owners and their Advisors.

## Document purpose

To describe the organisational arrangements for post disaster building management and provide tools and process documents to support training and standard application across NZ for all emergency events where property damage occurs in a specific geographic area.

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## 1. Overview

*“Overall New Zealand was very well served by the engineers, building control officials and civil defence workers who participated in the building safety operations in Canterbury, most of whom were volunteers who worked to ensure the safety of the wider Christchurch community in very difficult circumstances.*

*New Zealand owes them a debt of gratitude”<sup>1</sup>*

The Canterbury Earthquakes Royal Commission made 51 recommendations for the improvement of the system and processes for post disaster building management. They recommended the new system and processes should be underpinned by a specific legislative framework in the Building Act 2004. Work is underway on the development of a legislative framework but it is highly unlikely that this will become law much before 2015. Given this time delay it was decided to address as many of the recommendations as possible through the development of new guidance, new field guides, assessment sheets, placards, and demolition protocols. These resources are for use after an event whether flood or earthquake which causes extensive property damage across a geographic area and in the interest of public safety needs to be assessed and decisions taken. There are also for the sake of completeness the Interim Use Evaluation and Detailed Damage Evaluation guidance to support the building owners’ obligation for the recovery phase. Also included in the manual is the guidance for forensic investigation.

A nationally consistent approach to post disaster building management will ensure that in an emergency managers have at their fingertips resources and skilled staff (including volunteers) to support the post disaster building management and the ability to scale up should that be required.

The aim is to train a cohort of engineers, building officials and architects. MBIE will hold a list of trained resources which can be made available to Civil Defence and Emergency Management Controllers if an emergency is declared and/or Building Control Managers if a local decision is made to run a rapid building assessment outside the framework of the Civil Defence and Emergency Management Act 2002. Training is scheduled to commence in April 2014.

Rapid assessment of buildings is inherently dangerous and it is acknowledged that people are at risk doing this work. Risk is mitigated by deployed staff being trained in risk identification, health and safety briefings before deployment, guidance on working safely and staff without personal protective equipment will not be deployed. Depending on the nature of the deployment arrangement the Health and Safety obligations will fall to the employing or contracting authority even if volunteers are used.

The legislation that applies is the Civil Defence and Emergency Management Act 2002 and the Building Act 2004 along with the Health and Safety in Employment Act. The current Building Act neither works for transition from a declared emergency nor works for a rapid building assessment conducted outside the auspices of the Civil Defence and Emergency Management Act. Local legal advice will be required as will your Territorial Authority’s appetite for risk set against costs of not doing anything.

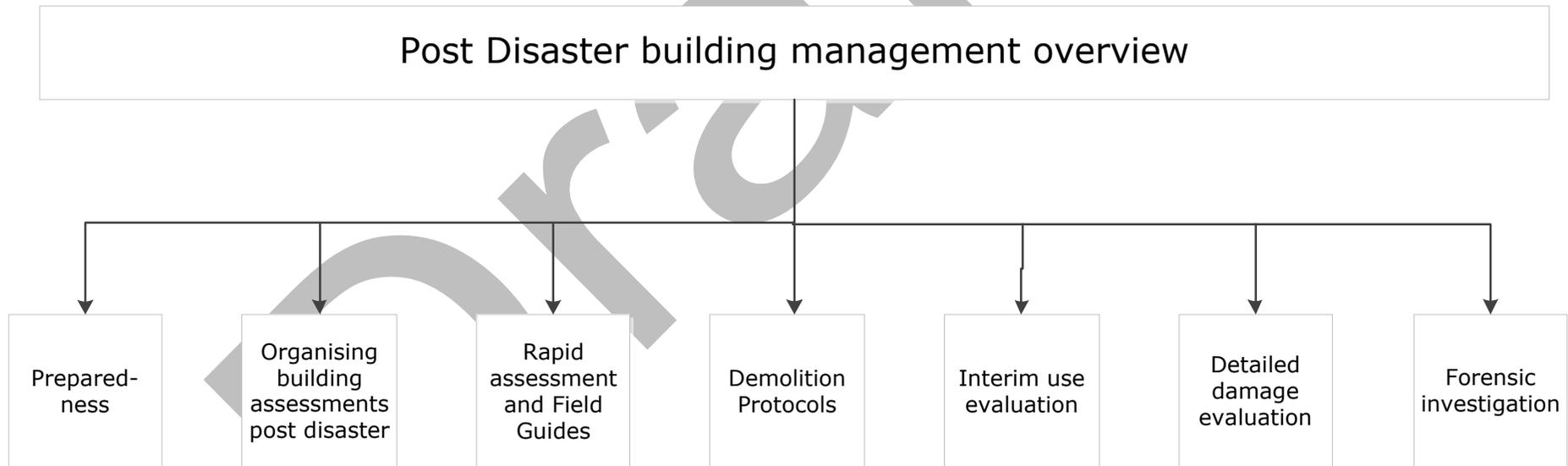
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<sup>1</sup> Volume 7 Roles and Responsibilities Canterbury Earthquakes Royal Commission Final Report

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## 2. Document interaction diagram

### Post Disaster Building Management system



### 3. Process diagrams

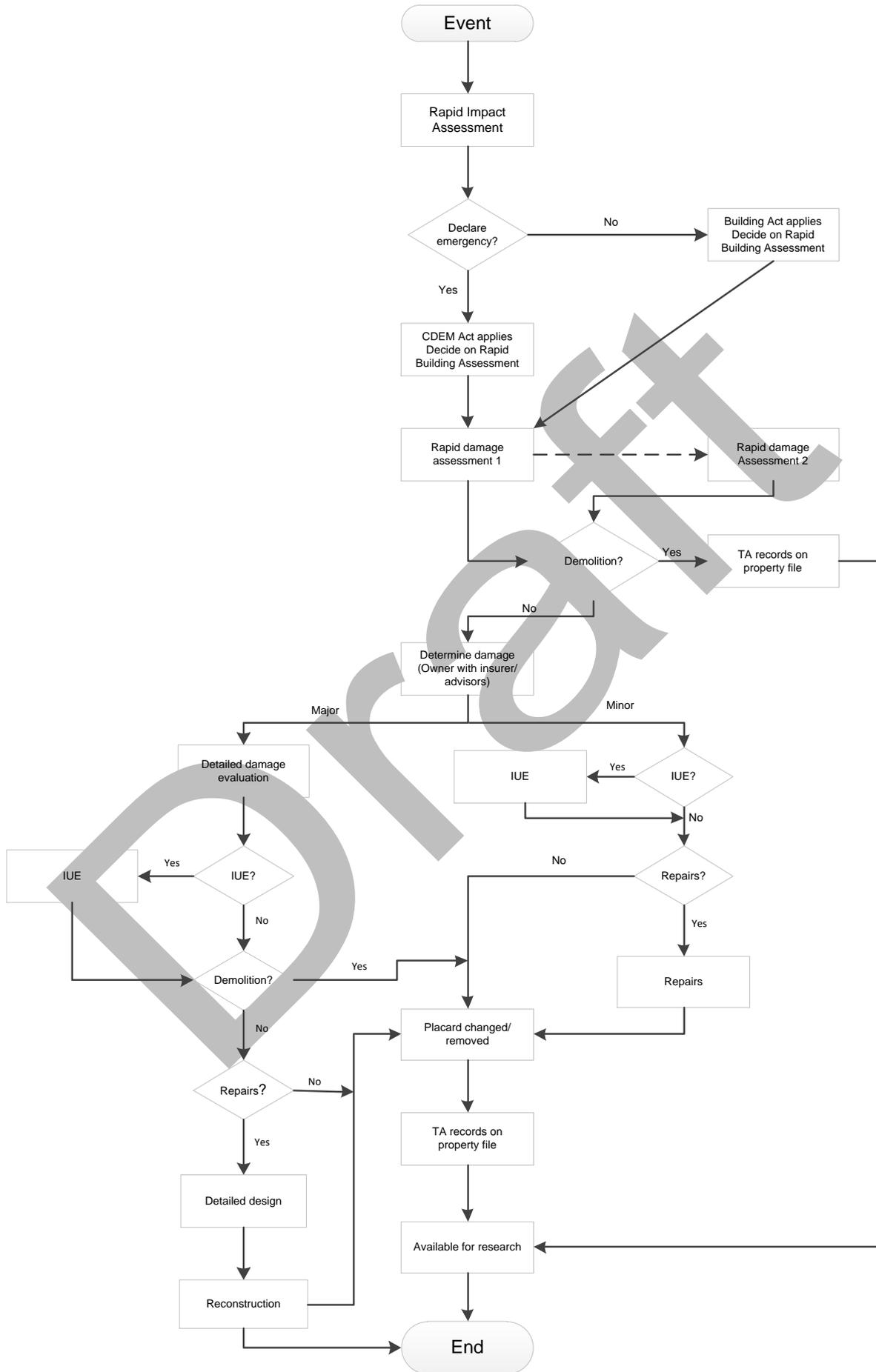
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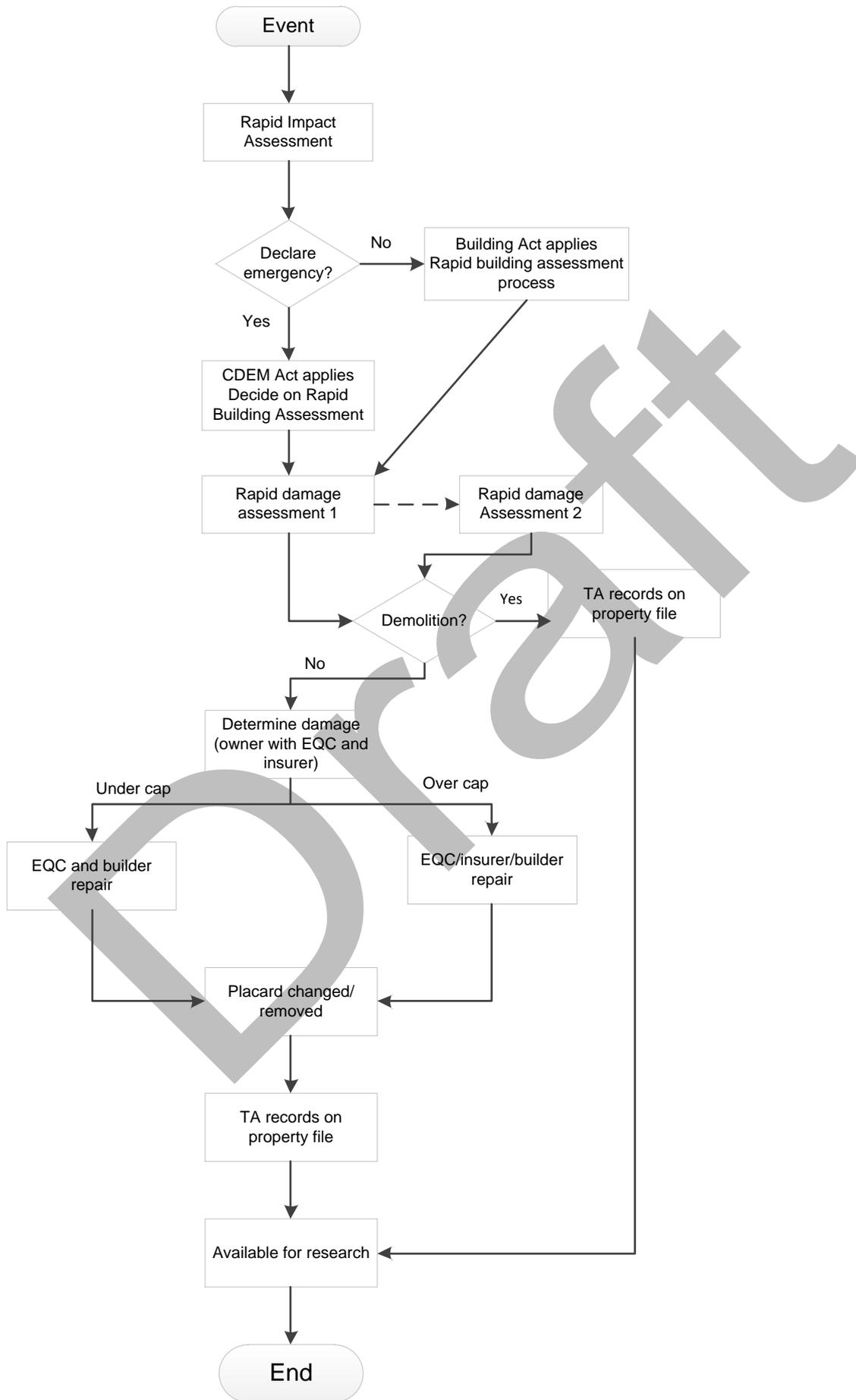
Complex commercial and multi-unit residential

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Simple residential

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## 4. Summary of documents

This section gives a summary of the six documents in the building evaluation system process.

| Document name                                 | Purpose   | Audience   | Major topics  |
|---|---|--|---|
| Preparedness                                  | The document purpose is to provide information to support the collection of information before the event, such as an earthquake, flood occurs.                | <ul style="list-style-type: none"> <li>• Territorial authorities</li> <li>• Building Control Managers</li> <li>• Civil Defence and Emergency Managers</li> <li>• MBIE</li> <li>• MCDEM</li> </ul>  | <ul style="list-style-type: none"> <li>• Gathering building information</li> <li>• Developing a building evaluation strategy</li> <li>• Assembling resources</li> <li>• Identifying people</li> <li>• Understanding the legal context</li> <li>• Developing a communications plan</li> <li>• Pre-planning and maintenance checklist</li> </ul>  |
| Organising building evaluations post disaster | To provide process and checklists to ensure that resources and information are deployed effectively after a disaster, such as an earthquake, or flood occurs. | <ul style="list-style-type: none"> <li>• Territorial authorities</li> <li>• Building Control Managers</li> <li>• Civil Defence and Emergency Managers</li> <li>• MBIE</li> <li>• MCDEM</li> <li>• BOINZ</li> <li>• IPENZ</li> <li>• NZRAB</li> </ul> | <ul style="list-style-type: none"> <li>• Declaring state of emergency</li> <li>• Activating the building evaluation plan</li> <li>• Setting up a response structure</li> <li>• Accessing required resources</li> <li>• Implementing communications plan</li> <li>• Communications resources</li> <li>• Communicating with owners, occupiers, and public</li> <li>• Solving conflict and managing stress</li> <li>• Required forms</li> <li>• Required letters of appointment for assessors and IPENZ short form contract</li> </ul> |

| Document name  | Purpose  | Audience  | Major topics   |
|--|--|---|--|
| <p>Rapid Assessment Field Guides:</p> <ul style="list-style-type: none"> <li>Floods</li> <li>Earthquakes</li> </ul> <p>Other Information</p> | <p>To provide standard guidance for the rapid assessment of buildings to the rapid building assessors and the application of the placards.</p>   | <ul style="list-style-type: none"> <li>Territorial Authorities</li> <li>Building Control Managers</li> <li>Civil Defence and Emergency Managers</li> <li>MBIE</li> <li>MCDEM</li> <li>Lifeline Utilities</li> <li>Culture and Heritage</li> <li>Historic Places Trust</li> <li>All authorised rapid building assessors</li> </ul> | <ul style="list-style-type: none"> <li>Health and safety</li> <li>Building Assessment overview</li> <li>Residential rapid assessment</li> <li>Level one Complex residential and all non-residential buildings assessment</li> <li>Level 2 Complex residential and non-residential buildings</li> <li>Dealing with people</li> <li>Specific building types</li> <li>Hazards</li> <li>MOU for engineers working for TAs</li> </ul> |
| Demolition protocols   | <p>To provide a standardised approach for the decision making on demolition or deconstruction including process steps for the preservation of heritage and the managed transition for buildings impacting lifeline utilities</p> | <ul style="list-style-type: none"> <li>Territorial Authorities</li> <li>Building control Managers</li> <li>Civil Defence and Emergency Managers</li> <li>Lifeline Utilities</li> <li>Culture and Heritage</li> <li>Historic Places Trust</li> <li>MBIE</li> <li>MCDEM</li> </ul>  | <ul style="list-style-type: none"> <li>Process steps to consultation on and decision taking on demolition</li> <li>Interface to USAR</li> <li>Who needs to be involved</li> <li>Dealing with lifeline utilities</li> <li>Dealing with Heritage issues</li> </ul>   |
| Interim use evaluation (IUE)   | <p>To provide information and tools required to make an informed decision about whether a building can be used</p>   | <ul style="list-style-type: none"> <li>Territorial authorities</li> <li>Construction and Insurance sectors</li> <li>Property Owners and their professional advisors</li> <li>Structural engineers</li> <li>MBIE</li> <li>MCDEM</li> </ul>   | <ul style="list-style-type: none"> <li>Principles</li> <li>Decision diagram</li> <li>Checklist</li> </ul>  |

| Document name                    | Purpose  | Audience  | Major topics  |
|----------------------------------|--|---|---|
| Detailed damage evaluation (DDE) | <ul style="list-style-type: none"> <li>To provide guidance to ensure the appropriate level of response to detailed damage evaluations</li> <li>To provide lessons learned from Canterbury</li> </ul> | <ul style="list-style-type: none"> <li>Structural engineering design</li> <li>Construction and insurance sectors</li> <li>Territorial Authorities</li> <li>Property Owners and their professional advisers and contractors</li> <li>MBIE</li> </ul> | <ul style="list-style-type: none"> <li>Regulatory context</li> <li>Seismicity</li> <li>Lessons learned</li> <li>DDE procedure</li> <li>Assessing building resilience</li> <li>Assessing critical structural weaknesses</li> <li>Allowance for resilience</li> <li>Mitigation</li> <li>Examples</li> <li>Reporting requirements</li> </ul> |
| Forensic investigations          | To provide the criteria for initiating an investigation and a description of the process and protocols   | <ul style="list-style-type: none"> <li>MBIE</li> <li>Territorial Authorities</li> <li>Consultants</li> <li>Structural engineers</li> </ul>  | <ul style="list-style-type: none"> <li>Investigation planning (including criteria)</li> <li>Conducting a forensic investigation</li> <li>Reporting findings</li> <li>Evaluation protocols</li> </ul>  |