

# Natural Disaster Risk Management

Guidelines for Reporting

**INCLUDES TEMPLATES FOR:**

- **DISASTER RISK MANAGEMENT REPORT**
- **DISASTER MITIGATION PLAN**
- **LOCAL GOVERNMENT COUNTER DISASTER PLAN**



**Queensland Government**  
Department of **Emergency Services**  
Counter Disaster and Rescue Services

# **Natural Disaster Risk Management**

## **Guidelines for Reporting**

**Developed by:  
Counter Disaster and Rescue Services  
Queensland Department of Emergency Services**

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# NATURAL DISASTER RISK MANAGEMENT GUIDELINES FOR REPORTING

## INCLUDING DISASTER RISK MANAGEMENT ASSESSMENT AND THE DEVELOPMENT OF A:

- **DISASTER RISK MANAGEMENT REPORT**
- **DISASTER MITIGATION PLAN**
- **LOCAL GOVERNMENT COUNTER DISASTER PLAN**

## 1 INTRODUCTION

### 1.1 Disaster Risk Management

Over the past twenty years there has been a significant philosophical change in disaster management in Australia which has been characterized by a recognition of the value of risk management techniques in disaster risk management leading to the development of strategies to mitigate the effects of natural hazards on communities.

Mitigation is defined as ‘measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and the environment’. Mitigation measures include non-structural strategies such as awareness campaigns, land use planning instruments and warning systems and/or structural measures such as relocation of dwellings, raising of dwellings and levee construction.

An increasing population and its supporting infrastructure assets increase the vulnerability of communities exposed to various hazards. The implementation of effective mitigation strategies will help decrease this vulnerability.

Queensland has a high level of vulnerability to a wide range of natural hazards including flood, storm surge, cyclone, severe winds, landslide, earthquake and bushfires.

The Australian Water Resources Council Water Management Series Report No.21: 1992 stated that the cost of all disasters in Queensland was \$492M compared with the equivalent National figure of \$1250M (note that the figures include an allowance for drought, which was an eligible event at that time).

Research has shown that every \$1 spent on disaster mitigation saves at least \$3 in economic and social recovery costs.

Disaster risk management is a ‘systematic process that produces a range of measures that contribute to the well being of communities and the environment’. It includes:

- ◆ context definition;
- ◆ risk identification;
- ◆ risk analysis;
- ◆ risk evaluation;
- ◆ risk treatment;
- ◆ monitoring and review; and
- ◆ communication.

The philosophy and the methods of disaster risk management are a blend of traditional disaster management and the risk management approaches as outlined in AS/NZS 4360:1999 *Risk Management*.

## **1.2 About This Document**

This document is intended as a ‘how-to’ guide for use by Local Governments in undertaking a Natural Disaster Risk Management Study and developing a suite of disaster risk management documents.

The templates provided are the outworkings of disaster risk management studies undertaken for the Department of Emergency Services in the Local Government areas of Murweh Shire, Cairns, Mackay and Hervey Bay City Councils.

The document leads to the establishment of information that will satisfy the requirements needed to access ongoing Natural Disaster Relief Arrangements (NDRA) funding.

### **1.2.1 Disaster Risk Management Assessment**

The detailed process involved in undertaking a natural disaster risk management assessment is fully discussed in the book “*Disaster Risk Management*” by A. Zamecka and G. Buchanan, produced by the Department of Emergency Services. Copies of this book have been circulated to all Local Governments. Additional copies may be purchased from the Department (ph: 3247 8481).

The disaster risk management assessment process is summarized in the “template” provided at the end of this guideline document at pages 35 to 42. The format used in the template is:

- ◆ who does it;
- ◆ what has to be done;
- ◆ what are the expected outcomes;
- ◆ explanatory notes; and
- ◆ linkages to AS/NZS 4360:1999 *Risk Management*.

Supporting worksheets for the collection of data and recording of the outcomes of each stage of the process can be found at pages 11 to 34 of this guideline.

### **1.2.2 Disaster Risk Management Reporting**

An outline of the final reports and plans are provided as follows:

- ◆ Part (1) – Disaster Risk Management Report at pages 6 to 8; and
- ◆ Part (2) – Disaster Mitigation Plan at page 8;
- ◆ Part (3) – Local Government Counter Disaster Plan at page 9.

Proformas and the associated worksheets can be found at pages 11 to 34. The process “template” can found at pages 35 to 42.

An electronic version of the report, outlines, worksheets and the process “template” is available from the Disaster Mitigation Unit, Counter Disaster and Rescue Services.

### 1.3 Definitions

The following definitions apply to these guidelines:

**Community** – a group of people with a commonality of association and generally defined by location, shared experience, or function.

**Consequences** – the outcome of an event expressed quantitatively, being a loss, injury, disadvantage or gain. (In disaster risk management - the outcome of an event or situation expressed qualitatively or quantitatively - generally described as the effects on persons, society, the economy and the environment.)

**Disaster risk management** – a systematic process that produces a range of measures that contribute to the well being of communities and the environment.

**Environment** – conditions or influences comprising built, physical and social elements, which surround or interact with a community.

**Executive management team** – a team established within a Local Government, led by the Chief Executive Officer and consisting of the Directors of the departments of the Council, charged with the day to day ‘good management’ of the Council.

**Hazard** – a source of potential harm or a situation with a potential to cause loss. (In disaster risk management – a situation or condition with potential for loss or harm to the community or environment.)

**Likelihood** – used as qualitative description of probability and frequency.

**Mitigation** – measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment.

**Risk** – the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood. (In disaster risk management – a concept used to describe the likelihood of harmful consequences arising from the interaction of hazards, communities and the environment.)

**Risk analysis** – a systematic use of available information to determine how often specified events may occur and the magnitude of their likely consequences. (In disaster risk management - the systematic use of available information to study risk.)

**Risk evaluation** – the process used to determine risk management priorities by evaluating and comparing the level of risk against predetermined standards, target risk levels or other criteria.

**Risk treatment options** – measures that modify the characteristics of hazards, communities and environments to reduce risk, viz. prevention preparedness, response and recovery.

**Stakeholders** – those who may affect, be affected by or perceive themselves to be affected by the disaster risk management process.

**Vulnerability** – the susceptibility and resilience of the community and environment to hazards.

## **2 BACKGROUND**

### **2.1 Natural Disaster Relief Arrangements**

Following a review of the Natural Disaster Relief Arrangement (NDRA) in 1996 the Commonwealth Minister for Finance and Administration foreshadowed that approvals under NDRA would be linked to evidence of mitigation.

On 22 July 1998 the Commonwealth Minister for Finance and Administration approved the new NDRA Guidelines which essentially say that a pre-requisite for the provision of NDRA assistance (except for personal hardship and distress provisions) is

- (a) that natural disaster mitigation strategies are in place in respect of likely or recurring disasters, or
- (b) that a commitment is made to develop and implement such a strategy within an acceptable timeframe.

There is a degree of retrospectivity in these arrangements in that from 1 July 1998 States/Territories that have received NDRA funding assistance for the restoration and repair of public assets of \$4M or more in any given financial year commencing 1996/97, will be required to provide details of disaster mitigation measures implemented or proposed to be implemented, in areas where disasters have occurred.

The Commonwealth Minister for Finance and Administration has the power of veto over whether claims for Commonwealth assistance will be met.

### **2.2 State Natural Disaster Relief Arrangements**

The State Government in 1999 amended its policy in relation to NDRA. The amendment is applicable to all Local Governments with a rate revenue base at 1996/97 of \$3M per annum or less and to River Improvement Trusts. Provided that evidence exists of the development of a disaster mitigation plan and implementation strategy, then the amount that the eligible Local Governments have to pay before being eligible for NDRA assistance is reduced to \$50,000 and in the case of River Improvement Trusts to \$5,000.

State Cabinet approved the policy on 7 December 1998, decision No. 400.

### **2.3 Local Government Disaster Management Project Studies – Murweh Shire, Cairns, Mackay and Hervey Bay City Councils.**

The guidelines for undertaking a Disaster Risk Management Study, developing a Disaster Risk Management Report, a Disaster Mitigation Plan, and the supporting documentation are the result of the deliverables from a Flood Risk Study in Murweh Shire Council and the Local Government Disaster Mitigation Project conducted in the Cities of Cairns, Mackay and Hervey Bay. The studies used as their basis Australian/New Zealand Standard 4360: 1995 and 1999 *Risk Management*.

## **2.4 Advantages of Undertaking the Disaster Risk Management Process**

The advantages of undertaking the Disaster Risk Management process are:

- ◆ to meet the requirements for future access to NDRA funding;
- ◆ to reduce the State threshold for NDRA funding for small Local Governments (\$3M rate revenue base or less);
- ◆ to improve community resilience to natural disasters;
- ◆ to follow a structured process that produces outcomes suitable for inclusion in all corporate governance plans in Local Government; and
- ◆ to discharge Council's duty of care obligation to provide for the well-being and safety of its community.

## **3 DOCUMENTATION**

### **3.1 Need to Document the Process**

In undertaking the risk management process it is inevitable that a large amount of data will be collected and documentation developed which will be of significant strategic value to the organisation. Therefore it is essential that a strategy is developed to manage this process.

Each stage of the disaster risk management process should be documented and it should include assumptions, methods, data sources, results etc.

### **3.2 Reasons for Documentation**

The reasons for documentation are:

- ◆ to demonstrate that the process has been properly conducted;
- ◆ to provide evidence that a systematic approach to risk identification and analysis has been followed;
- ◆ to provide a record of the risks identified and to develop the organisation's knowledge database;
- ◆ to provide the decision makers with a risk management report and risk treatment plan for approval and subsequent implementation;
- ◆ to provide an accountability mechanism and tool;
- ◆ to facilitate the continued monitoring and review of the process and its outcomes;
- ◆ to share and communicate information;
- ◆ to provide an audit trail;
- ◆ to address duty of care obligations; and
- ◆ to satisfy the Commonwealth Government's requirement for evidence of mitigation.

### **3.3 Documentation Control**

A simple documentation control system needs to be developed that encompasses the following:

- ◆ method of production; e.g. hard copy, electronic copy;
- ◆ identification of all documents by title/name, version and date;

- ◆ periodic review mechanism as part of the monitoring and review process;
- ◆ catalogue, label and archive all out-of-date material; and
- ◆ consideration of off-site data back up.

The process will inevitably produce a considerable amount of documentation, which may appear to be repetitive; nevertheless it is vital to ensure that each step in the risk management process is properly recorded.

### **3.4 Documentation Components**

There are three components to be documented after undertaking a disaster risk study:

- Part (1) Disaster Risk Management Report
- Part (2) Disaster Mitigation Plan
- Part (3) Local Government Counter Disaster Plan (updated)

The forms provided are an example only of the type that may be required in order to capture the data and other information. In a complex risk management study it may be necessary to modify the forms to suit the task at hand.

The forms will be useful in developing an executive summary of each of the steps for inclusion in the final risk study report. The actual forms containing the collected data will form a series of appendices to the final report.

### **3.5 PART (1): DISASTER RISK MANAGEMENT REPORT**

The outcomes from the natural disaster risk management study should be documented in order to satisfy the following objectives:

- ◆ evidence that the process was conducted in a structured manner;
- ◆ as a reference document for future planning of the Council's area and input to the yearly operational plans of Council; and
- ◆ for the potential it provides to reduce exposure to litigation following a disaster.

The following is a suggested format for such a report:

1. Record of formal acceptance of the Disaster Risk Management Report by Council (resolution number, date, etc.)
2. Executive summary
3. Summary of project management plan
4. Context (concise summary)
  - 4.1 Relevant policies, legislation
  - 4.2 Political, social and economic circumstances
  - 4.3 Context
  - 4.4 Risk evaluation criteria
5. Risks (concise summary)
  - 5.1 All Hazards description
  - 5.2 Community description
  - 5.3 Environment description
  - 5.4 Identified risks

6. Risk analysis and evaluation (concise summary)
  - 6.1 Summary of analysis
  - 6.2 Summary of evaluation
7. Risk Treatment
  - 7.1 Summary of assessment criteria for risk treatment options set out in tabular form under headings Criteria and Question
  - 7.2 Summary of risk action (mitigation) plan by hazard grouping and by operational plan year. Detail provided would include Hazard, Endorsed treatment (mitigation) option, Responsible agency, Consequential actions, Estimated cost, Possible funding source, Implementation timeline
8. Appendices (worksheets)
  - A1 Risk management team
  - A2 Communication strategies
  - A3 Problem definition and establishment of context
  - A4 Establishment of the risk management structure (Project plan)
  - A5 Development of risk evaluation criteria
  - A6 Identification and description of hazards
  - A7 Identification and description of community and environment
  - A8 Community vulnerability profile
  - A9 Risk description register
  - A10 Risk evaluation register
  - A11 Identification and evaluation of treatment options
  - A12 Risk treatment action and monitoring schedule
  - A13 Detailed risk action (disaster mitigation) plans
  - A14 Treatment strategy development Future Years
  - A14/1 Treatment strategy development Past Years

Note: Examples of worksheets for the above appendices may be found at pages 11 to 27 of this document and in Part 4 Section 18.1.1 to 18.1.12 *Local Government Disaster Mitigation Project Overview Report* dated September 2000 or in Zamecka, A. & Buchanan, G. (1999) *Disaster Risk Management*.

Where the study undertaken is a supporting technical study or other support-type study then the reasons for the need to document the process and the actual documentation is similar to that for an all-hazards risk management study. The content of a support-technical study or other support-type study might be as follows:

1. Record of formal acceptance of the report by Council (resolution number, date etc.)
2. Executive summary
3. Summary of project management plan
4. Introduction
5. Historical Records/Source of Information/Statistical Analysis etc.
6. Climatology/Hydrology/Structure etc.
7. Methodology
8. Outcomes/Findings
9. Resources required
10. Costs

11. Timeframes
12. Discussion on outcomes
13. Limitations
14. Recommendations
15. References
16. Appendices.

The recommendations from the supporting technical study or other support-type study should be fed into the overall disaster risk management report and where appropriate into the Disaster Mitigation Plan and the Local Government Counter Disaster Plan.

### **3.6 PART (2): DISASTER MITIGATION PLAN**

In order to satisfy the requirements of evidence of mitigation outlined in Section 2.1 a Disaster Mitigation Plan should be developed and submitted to the Department of Local Government and Planning for approval as “evidence of mitigation” for NDRA purposes.

The Disaster Mitigation Plan should include the following:

- ◆ Summary of the mitigation process - proforma B;
- ◆ Community Vulnerability Profile - form A8;
- ◆ Risk Register Part A: Risk Description - form A9;
- ◆ Risk Register Part B: Risk Evaluation - form A10;
- ◆ Treatment Strategy Development Future Years - form A14; and
- ◆ Treatment Strategy Development Past Years - form A14/1.

The following is a suggested format for such a plan:

1. Record of formal acceptance of the Disaster Mitigation Plan by Council (resolution number date etc.)
2. Executive summary
3. Disaster mitigation plan.

Community Vulnerability Profile outlining the vulnerability of people, social structures, buildings, lifelines, critical facilities, environment, local economic production and employment etc. Form A8

Risk Register Part A - Risk Description, by hazard addressing the vulnerable elements (people, buildings environment etc), the risk and consequences. Form A9

Risk Register Part B - Risk Evaluation, addressing hazard, risk, likelihood rating, consequence rating and risk rating. Form A10

Treatment strategy development Future Years detailing a full listing of all risk action (disaster mitigation) plans by hazard grouping and by operational year. Detail provided would include endorsed treatment (mitigation) option, responsible agency, consequential actions, estimated cost, possible funding source, timeframe. Form A14

Treatment strategy development Past Years detailing full list of all disaster mitigation plans by hazard grouping. Detail provided would include endorsed treatment (mitigation) option, responsible agency, consequential actions, year implemented. Form A14/1

Evidence of existing mitigation (treatment) options that have been implemented in past years is best provided by using Form A14/1 and listing all the treatments implemented, by hazard type, under the headings endorsed treatment, responsible agency, consequential actions and year implemented and ignoring the other headings. Do not list them by “operational plan year” instead roll them under the one general heading of “past years.”

Note: Examples of worksheets for the above may be found at pages 28 to 34 of this document.

### **3.7 PART (3): LOCAL GOVERNMENT COUNTER DISASTER PLAN**

The *State Counter-Disaster Organisation Act 1975*, clause 26(1)(a) requires that a Local Government prepare a counter disaster plan. It is not suggested that a new plan be drawn up as a direct result of the natural disaster risk management study however it is strongly suggested that elements of the disaster risk management study be incorporated into the existing plan under the heading Disaster Risk Management Outcomes.

The following elements are suggested for inclusion:

Form A8 – Community Vulnerability Profile  
Form A9 – Risk Register Part A: Risk Description  
Form A10 – Risk Register Part B: Risk Evaluation.

## **4 FORMAL ADOPTION OF DISASTER RISK MANAGEMENT REPORT AND DISASTER MITIGATION PLAN**

As part of the formal process for receiving the Disaster Risk Management Report and the Disaster Mitigation Plans the Council should:

- ◆ formally resolve to receive the study report and the mitigation plans;
- ◆ formally resolve the action it proposes to take on the report; and
- ◆ formally resolve the action it proposes to take on the recommended mitigation plans.

If for whatever reason the Council does not wish to receive the study report and/or take up a particular treatment options, then it should formally resolve those decisions and include them in the final report. This action would form a vital part of any necessary defence against litigation that may be brought against the Council for failure to implement a particular mitigation strategy.

## **5 TOOLS TO ASSIST THE PROCESS**

The following tools are available to assist Local Governments to undertake the disaster risk management process:

- ◆ Australian/New Zealand Standard 4360:1999 *Risk Management*.
- ◆ Zamecka, A. & Buchanan, G. (1999) *Disaster Risk Management*.
- ◆ Process 'Template' and 'Proforma' from the Local Government Disaster Mitigation Project.
- ◆ Funding under the Natural Disaster Risk Management Studies Program to undertake natural disaster risk management studies.
- ◆ Part 2 summary report of the Local Government Disaster Mitigation Project.

## **6 ASSISTANCE AVAILABLE**

Assistance is available to Local Governments undertaking the disaster risk management process from:

- ◆ District Managers, Counter Disaster and Rescue Services.
- ◆ Training programs run by:
  - ◆ Counter Disaster and Rescue Services; and
  - ◆ Australian Emergency Management Institute.

## **7 STATE GOVERNMENT APPROVAL**

State Government approval of the Disaster Mitigation Plan should be sought either:

- (a) in support of the lower State NDRA trigger point (Local Governments with a \$3M rate revenue base or less per annum); or
- (b) as evidence of mitigation planning to meet the revised Commonwealth NDRA guidelines (all Local Governments).

In order to receive such approval the Council should forward a copy of the Disaster Mitigation Report and Disaster Mitigation Plan to the Director, Disaster Mitigation Unit, CDRS, Department of Emergency Services, GPO Box 1425, Brisbane Qld 4001.

The Department of Emergency Services will:

- (a) acknowledge receipt of the documentation;
- (b) review the documentation; and
- (c) advise the Department of Local Government and Planning of the acceptance or otherwise of the document as "evidence of mitigation".

The Department of Local Government and Planning will:

- (a) formally advise the Local Government of the acceptance of the documentation as "evidence of mitigation;" and
- (b) for Local Governments with a rate revenue base of \$3M or less annually, confirm the lower trigger point for Natural Disaster Relief Arrangements.

# 8 PART (1) DISASTER RISK MANAGEMENT REPORT

*(...CITY/SHIRE ...) COUNCIL*

## **DISASTER RISK MANAGEMENT REPORT**

### **Adoption by Council**

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#### **DISASTER RISK MANAGEMENT REPORT**

*(.....COMMITTEE REPORT)*

*Moved by Councillor .....  
That the Disaster Risk Management Report dated..././..  
be received and adopted, subject to:*

*.....  
.....  
.....*

*Seconded by Councillor .....  
The motion was put and carried.  
Date: ..././..*

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### **Executive Summary**

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*A concise summary of the key issues such as Scope of the study, Methodology used, Key deliverables, Key risks, Key treatment options that are addressed in more detail in the body of the report.*

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### **Summary of Project Plan**

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*A concise summary of the project plan highlighting the main points such as Project management team, Timeline, Budget, Risks to the process, Communication strategy.*

---

### **Context**

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*A concise summary of the main context issues:*

- ◆ *Commonwealth, State and local legislation*
  - ◆ *Political, social and economic circumstances*
  - ◆ *Key Risk criteria*
- 

### **Risks**

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*A concise summary of:*

- ◆ *Key hazard/s expected in the area*
  - ◆ *Key community issues by hazard grouping, such as geographically based group; shared experience based groups (interest, ethnic, professional, aged, special needs, etc); Sector based groups (agricultural, manufacturing, commercial, etc); Function based groups ( infrastructure providers, information, people movement etc)*
  - ◆ *Key Environment issues by hazard grouping, such as Built, Physical, Social*
  - ◆ *Key risks statements identified by hazard grouping.*
-

## Risk analysis and evaluation

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- ◆ *A concise summary of the key risks and consequences grouped by hazard and within the group by vulnerable element*
  - ◆ *A concise summary of the key likelihood and consequence evaluation of the risks, by hazard grouping. These may be risks with a likelihood rating of almost certain or a consequence rating of major to extreme.*
- 

## Risk Treatment

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- ◆ *A summary of the risk treatment options by hazard grouping, e.g. by top risk rating or other combination of ratings deemed reportable, set out in tabular form.*
  - ◆ *A summary of the assessment criteria for risk treatment options set out in tabular form under the headings Criteria and Question.*
  - ◆ *Full listing of all risk action (disaster mitigation) plans by hazard grouping and by operational plan year. Detail provided would include, Endorsed treatment (mitigation) option, Responsible agency, Consequential actions, Estimated cost, Possible funding source, Timeframe.*
  - ◆ *Detailed risk action (disaster mitigation) plan (tabular form) under headings: Risk statement, Summary-Recommended response & expected outcome, Action plan-proposed action, resources required, responsibilities, timetable (year & time frame), estimated cost, possible funding source, reporting & monitoring.*
- 

## Appendices

- ◆ *Examples of worksheets for each of the above appendices may be found in Part 4 Section 18.1.1 to 18.1.12 Local Government Disaster Mitigation Project Overview Report dated September 2000 or in Disaster Risk Management by Zamecka, A. & Buchanan, G. (1999).*

◆ <i>Risk management team.</i>	<i>Form A1</i>	<i>page 13</i>
◆ <i>Communication plan.</i>	<i>Form A2</i>	<i>page 14</i>
◆ <i>Problem definition and establish the context.</i>	<i>Form A3</i>	<i>page 15</i>
◆ <i>Establishment of the risk management structure (Project plan).</i>	<i>Form A4</i>	<i>page 16</i>
◆ <i>Development of risk evaluation criteria.</i>	<i>Form A5</i>	<i>page 17</i>
◆ <i>Identification and description of hazards.</i>	<i>Form A6</i>	<i>page 18</i>
◆ <i>Identification and description of community and environment.</i>	<i>Form A7</i>	<i>page 19</i>
◆ <i>Community vulnerability profile.</i>	<i>Form A8</i>	<i>page 20</i>
◆ <i>Risk description register.</i>	<i>Form A9</i>	<i>page 21</i>
◆ <i>Risk evaluation register.</i>	<i>Form A10</i>	<i>page 22</i>
◆ <i>Identification and evaluation of treatment options.</i>	<i>Form A11</i>	<i>page 23</i>
◆ <i>Risk treatment action and monitoring schedule.</i>	<i>Form A12</i>	<i>page 24</i>
◆ <i>Detailed risk action (disaster mitigation) plans.</i>	<i>Form A13</i>	<i>page 25</i>
◆ <i>Treatment strategy development (by operational plan year).</i>	<i>Form A14</i>	<i>page 26</i>
◆ <i>Treatment strategy development Past Years</i>	<i>Form A14/1</i>	<i>page 27</i>

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## COMMUNICATION STRATEGIES

Use this form to describe the identified strategies that will be put in place for dealing with the various communication tasks that will be an integral part of your risk management process.

<b>Communication with Executive Management</b>
<b>Communication with Risk Management Team</b>
<b>Communication within the Organisation</b>
<b>Communication with External Agencies</b>
<b>Communication with the Community</b>

Recorded by.....

Date.....

## PROBLEM DEFINITION AND ESTABLISHMENT OF CONTEXT

Use this form to describe the scope and nature of issues that comprise the context in which your risk management process will be carried out. Include legislation, policy, political and economic circumstances, social and cultural issues, present disaster management capability, community perceptions and attitudes. Include any requirement to comply with Council's policy and practices on risk management.

### Problem Definition

### Clients and Stakeholders

### Factors that Affect the Risk Management Process

### Other Issues

Recorded by.....

Date.....

## Establishment of the Risk Management Structure

Use this form to describe the physical and time boundaries of the study, methods of communication and analysis of hazards, community vulnerability as well as expressions of outcomes. The description should include the timeframe of the main activities and the roles and responsibilities of the parts involved in the risk management process.

<b>Physical and Time Boundaries of the Study</b>
<b>Methods of Risk Communication and Consultation with Stakeholders</b>
<b>Terms of Reference, Goals and Objectives</b>
<b>Expected Outcomes</b>
<b>Extent and Comprehensiveness of the Risk Management Activities</b>
<b>Type of Analysis and Expression of Outcomes</b>
<b>Parameters and Sequence of Activities</b>
<b>Other Issues</b>

Recorded by.....

Date.....

## DEVELOPMENT OF RISK EVALUATION CRITERIA

Risk evaluation criteria should describe human and social issues, environmental considerations, economic effects, risk characteristics, legal, social justice and political implications, manageability and other relevant factors.

<b>Human and Social Factors</b>
<b>Built and Natural Environment</b>
<b>Economic Loss</b>
<b>Risk Escalation</b>
<b>Risk Frequency</b>
<b>Legal and Social Justice Implications</b>
<b>Political Implications</b>
<b>Manageability</b>

Recorded by.....

Date.....

## IDENTIFICATION AND DESCRIPTION OF HAZARDS

Each of the identified hazards should be described. Where possible, relevant properties of the hazards should be described. These include probability of occurrence, frequency of events of different intensity, speed of onset, coverage and duration of the hazard impact. If detailed hazard studies have not been completed, those hazards should be described briefly in the form and the reference to relevant documentation of a hazard study attached.

<b>Hazard Name</b>
<b>Hazard Description</b>
<b>Secondary Hazards</b>

Recorded by.....

Date.....

## **IDENTIFICATION AND DESCRIPTION OF COMMUNITY AND ENVIRONMENT**

Use this form to describe the community and environment. An executive summary may be included in this form with a reference to other attached documents.

<b>Description of the Community</b>
<b>Description of the Built Environment</b>  (i) <b>Buildings</b>    (ii) <b>Engineering Lifelines</b>    (iii) <b>Critical Facilities</b>
<b>Description of Natural Environment</b> <b>e.g. Topography</b>
<b>Description of Social Environment</b> <b>e.g. Community Safety, Service Provision, Economics, Culture</b>

Recorded by.....

Date.....

## COMMUNITY VULNERABILITY PROFILE

Use this form to describe the community vulnerability. The vulnerability profile can be complex and therefore an executive summary can be included in this form with a reference to other attached documents

<b>Vulnerability of People</b>
<b>Vulnerability of Social Structures</b>
<b>Vulnerability of Buildings</b>
<b>Vulnerability of Environment</b>
<b>Vulnerability of Lifelines</b>
<b>Vulnerability of Critical Facilities</b>
<b>Vulnerability of Local Economic Production and Employment</b>
<b>Vulnerability Other Elements</b>

Recorded by.....

Date.....

## RISK REGISTER PART A – RISK DESCRIPTION

Use this form to record the output from the risk analysis process. For each hazard, specific risks are described in relation to vulnerable elements in Part A of the risk register. Part B will contain risk evaluation based on likelihood and consequence.

<i>HAZARD.....</i>		
VULNERABLE ELEMENTS	RISK	CONSEQUENCE
<b>People</b>		
<b>Buildings</b>		
<b>Environment</b>		
<b>Business</b>		
<b>Lifelines</b>		
<b>Critical Facilities</b>		

Recorded by.....

Date.....

## RISK REGISTER PART B – RISK EVALUATION

Use this form to record the output from the risk analysis process. For each hazard, specific risks are described in relation to likelihood, consequence and risk rating.

HAZARD	RISK	LIKELIHOOD RATING	CONSEQUENCE RATING	RISK RATING

Recorded by.....

Date.....



## RISK TREATMENT ACTION AND MONITORING SCHEDULE

Use this form to record the project leader assigned to manage and monitor the progress of all treatment options associated with a specific hazard

HAZARD	HAZARD PROJECT LEADER	REPORTING FREQUENCY

GENERIC DUTIES

Recorded by.....

Date.....

## DETAILED RISK ACTION (DISASTER MITIGATION) PLAN

Use this form to record against each risk statement developed the recommended response and expected outcome, proposed actions to be implemented to achieve the outcome, resources required, who/what work unit is responsible to carry out the work, timetable - year and timeframe work will be executed, cost and possible funding source and how and who will report on the progress of the work.

<b>Risk statement</b>
<b>Summary – Recommended response and expected outcomes</b>
<b>Action (Disaster Mitigation) plan</b>
1. <b>Proposed actions</b>
2. <b>Resources required</b>
3. <b>Responsibilities</b>
4. <b>Timetable – Operational plan year and Timeframe</b>
5. <b>Estimated cost and Possible funding source</b>
6. <b>Reporting and Monitoring</b>

Recorded by.....

Date.....

## TREATMENT STRATEGY DEVELOPMENT

**OPERATIONAL PLAN YEAR: 20../..**

**HAZARD:** \_\_\_\_\_

For each treatment strategy approved to be implemented record the responsible agency, consequential actions, estimated cost, funding source and timeframe within the operation year for implementation.

TIMEFRAME						
FUNDING SOURCE						
ESTIMATED COST						
CONSEQUENTIAL ACTIONS						
RESPONSIBLE AGENCY						
ENDORSED TREATMENT						

Compiled by..... Date.....

## TREATMENT STRATEGY DEVELOPMENT

**IMPLEMENTED STRATEGIES: PAST YEARS**

**HAZARD:** \_\_\_\_\_

For each treatment strategy already implemented in past years record the responsible agency, consequential actions and year in which the treatment was implemented. DO NOT record cost or funding source

<b>ENDORSED TREATMENT</b>	<b>RESPONSIBLE AGENCY</b>	<b>CONSEQUENTIAL ACTIONS</b>	<b>ESTIMATED COST</b>	<b>FUNDING SOURCE</b>	<b>YEAR IMPLEMENTED</b>

**Compiled by**..... **Date**.....

# 9 PART (2) DISASTER MITIGATION PLAN

*(...CITY/SHIRE ...) COUNCIL*

## **DISASTER MITIGATION PLAN**

### **Adoption by Council**

---

#### DISASTER MITIGATION PLAN

*(.....COMMITTEE REPORT)*

*Moved by Councillor .....  
That the Disaster Mitigation Plans dated..././...  
be received and adopted, subject to:*

*.....  
.....  
.....*

*Seconded by Councillor .....  
The motion was put and carried.  
Date: ..././.....*

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### **Executive Summary**

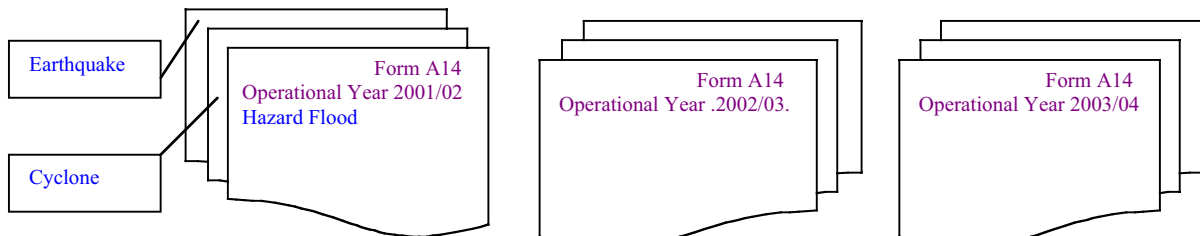
*A concise summary addressing the key issues such as Scope of the study, Methodology used, Key deliverables, Key risks, Key treatment options that are considered in more detail in the body of the plan.*

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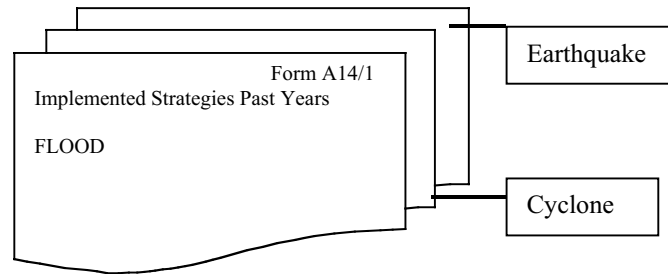
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### **Risk Treatment (Disaster Mitigation) Plan**

- ◆ *Community Vulnerability Form A8 Profile outlining the vulnerability of people, social structures, buildings, lifelines, critical facilities, local economic production and employment etc.*
- ◆ *Risk Register Part A - Risk Description Form A9 by hazard addressing the vulnerable elements (people, buildings environment etc), the risk and consequences.*
- ◆ *Risk Register Part B - Risk Evaluation Form A10 addressing hazard, risk, likelihood rating, consequence rating and risk rating.*
- ◆ *Treatment Strategy Development Form A14: Full listing of all risk action (disaster mitigation) plans by hazard grouping and by operational plan year. Detail provided would include, Endorsed treatment (mitigation) option, Responsible agency, Consequential actions, Estimated cost, Possible funding source, Timeframe.*



- ◆ **Treatment Strategy Development** IMPLEMENTED STRATEGIES PAST YEARS **Form A14/1**: Full listing of all risk action (disaster mitigation) strategies implemented in past years by hazard grouping. Detail provided would include, Endorsed treatment (mitigation) option, Responsible agency, Consequential actions, Year implemented.



# COMMUNITY VULNERABILITY PROFILE

Use this form to describe the community vulnerability. The vulnerability profile can be complex and therefore an executive summary can be included in this form with a reference to other attached documents

<b>Vulnerability of People</b>
<b>Vulnerability of Social Structures</b>
<b>Vulnerability of Buildings</b>
<b>Vulnerability of Environment</b>
<b>Vulnerability of Lifelines</b>
<b>Vulnerability of Critical Facilities</b>
<b>Vulnerability of Local Economic Production and Employment</b>
<b>Vulnerability Other Elements</b>

Recorded by.....

Date.....

# RISK REGISTER

## PART A – RISK DESCRIPTION

Use this form to record the output from the risk analysis process. For each hazard, specific risks are described in relation to vulnerable elements in Part A of the risk register. Part B will contain risk evaluation based on likelihood and consequence.

<i>HAZARD</i> .....		
VULNERABLE ELEMENTS	RISK	CONSEQUENCE
<b>People</b>		
<b>Buildings</b>		
<b>Environment</b>		
<b>Business</b>		
<b>Lifelines</b>		
<b>Critical Facilities</b>		

Recorded by.....

Date.....

**RISK REGISTER**  
**PART B – RISK EVALUATION**

Use this form to record the output from the risk analysis process. For each hazard, specific risks are described in relation to likelihood, consequence and risk rating.

<b>HAZARD</b>	<b>RISK</b>	<b>LIKELIHOOD RATING</b>	<b>CONSEQUENCE RATING</b>	<b>RISK RATING</b>

Recorded by.....

Date.....

## TREATMENT STRATEGY DEVELOPMENT

**OPERATIONAL PLAN YEAR: 20../..**

For each treatment strategy approved to be implemented record the responsible agency, consequential actions, estimated cost, funding source and time frame within the operation year for implementation.

**HAZARD:** \_\_\_\_\_

TIMEFRAME						
FUNDING SOURCE						
ESTIMATED COST						
CONSEQUENTIAL ACTIONS						
RESPONSIBLE AGENCY						
ENDORSED TREATMENT						

Compiled by..... Date.....

## TREATMENT STRATEGY DEVELOPMENT

**IMPLEMENTED STRATEGIES: PAST YEARS**

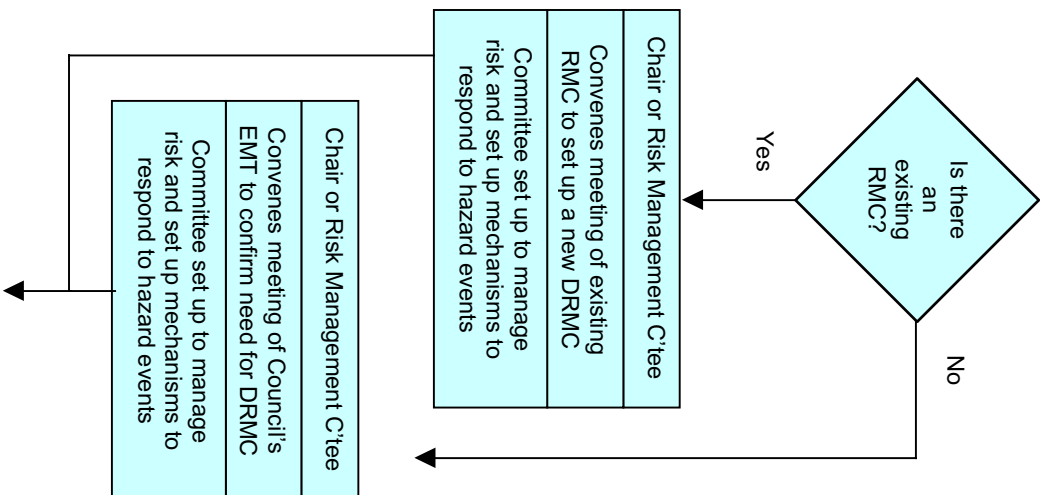
**HAZARD:** \_\_\_\_\_

For each treatment strategy already implemented in past years record the responsible agency, consequential actions and year in which the treatment was implemented. DO NOT record cost or funding source

<b>ENDORSED TREATMENT</b>	<b>RESPONSIBLE AGENCY</b>	<b>CONSEQUENTIAL ACTIONS</b>	<b>ESTIMATED COST</b>	<b>FUNDING SOURCE</b>	<b>YEAR IMPLEMENTED</b>

Compiled by..... Date.....

## 10 THE PROCESSES INVOLVED AND EXPECTED OUTCOMES IN PREPARING A DISASTER RISK MANAGEMENT REPORT AND DISASTER MITIGATION PLAN



- NOTES:**
- The steps in this process, the flowchart representation, and the linkages to the 'Risk Management' Standard, have been developed from the Consultants' methodology by the Department of Emergency Services.
  - Disaster Risk Management is only one of the corporate risk management actions Councils should address and for which they need to develop appropriate strategies.

- If it exists, the Chair of the Council's Risk Management Committee (RMC) should convene a meeting of that Committee to appoint members to a Disaster Risk Management Committee (DRMC). Membership must include representatives of the Local Government Counter Disaster Committee (LGCDC) preferably its Chair and Executive Officer, a member of a stakeholder group and a member of community. This meeting should:
  - nominate a Chair for the DRMC;
  - define the role of the DRMC;
  - set timeframes for meetings and actions; and
  - set reporting mechanisms between RMC and DRMC.

**NOTE:** The CEO should chair the RMC. Membership should include Department or Portfolio Heads, and the Executive Officer of the Local Government Counter Disaster Committee.

- If there is no existing RMC, then the Chair of the Council's Executive Management Team should call a meeting of Council's Executive Management Team (EMT) to appoint a DRMC. EMT should then proceed as in Step 1 and appoint members to a DRMC.

**NOTE:** DRMC should include in its membership representatives of Council's Departments & Portfolios, a rep from RMC/EMT, Chair and Exec Officer of LGCDC, LGCDC reps not already nominated in other roles, external agency reps, reps of community and CDRS District Manager.

Equivalent AS/NZS 4360 steps in 'Developing and implementing a risk management program'.

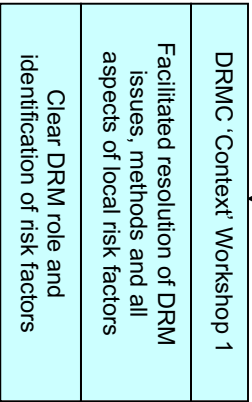
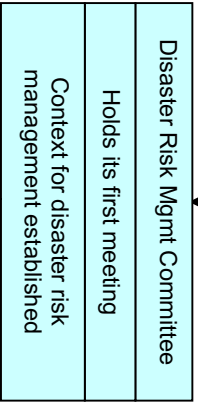
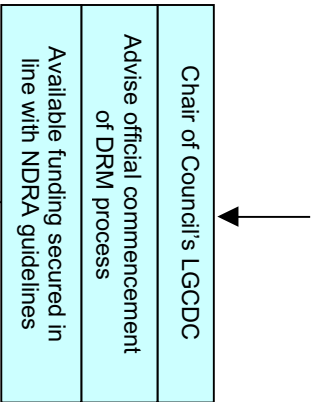
AS/NZS 4360

**STEP 1  
ESTABLISH THE  
CONTEXT**

Establish the strategic, organisational and risk management context

Establish criteria against which risks will be evaluated

Define a structure for the risk analysis process



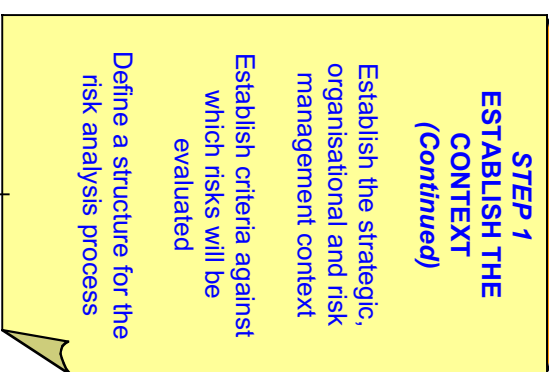
3. Council advises DES and DLGP that it has commenced the disaster risk management process, and aligns its actions with available support funding.

4. The Disaster Risk Management Committee (DRMC) meets to:

- address the charter etc handed to it by RMC or EMT;
- plan strategies to carry out full disaster risk management assessment in accordance with AS/NZS 4360 process;
- proceed with Step 1 'Establish the Context' using internal or external Facilitator;
- appoint an internal or external Facilitator; and
- consider the format of the final disaster risk management report and disaster mitigation plans for submission to Council. (See Section 4 for suggested layout and content)

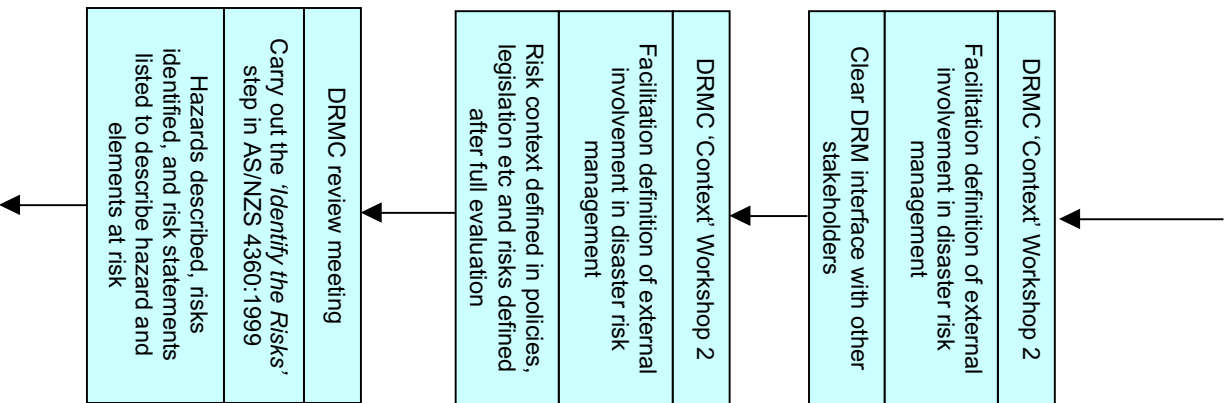
5. DRMC convenes an 'establish the context' workshop with RMC members, other key personnel in planning and operational areas of Council, members of LGCDC. The agenda for this workshop is to:

- define the issues involved in disaster risk management;
- establish a clear disaster risk management framework; and
- develop vulnerability and risk evaluation criteria including quantitative and qualitative factors for likelihood and consequences.



NOTE: The disaster risk management framework means:

- determining stakeholders;
- determining applicable legislation policy etc under which the DRM process must operate – Commonwealth, State and Local;
- determining management arrangements for the DRMC, i.e. project plan, communication strategies, meeting schedules, deliverables, timeliness, budget, reporting system, documentation sub committees, etc;
- determining political and economic circumstances; and
- determining social and cultural issues.



6. DRMC convenes an 'establish the context' workshop with outside stakeholders including community and agency representatives

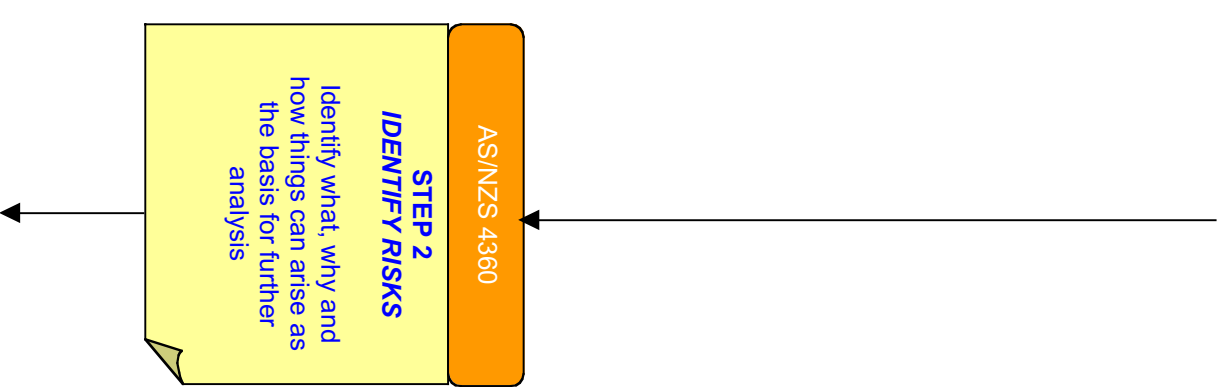
7. DRMC meets to consider and consolidate the outputs from the workshops 1 and 2, and to report findings to the RMC/EMT for comment.

8. DRMC proceeds to Step 2 of AS/NZS 4360:1999, i.e. 'Identify the Risks'.

The steps involve:

- identifying and describing the hazards;
- identifying and describing the community;
- identifying and describing the environment;
- defining the scope of specific vulnerabilities;
- generating risk statements; and
- re-evaluating the risk evaluation criteria.

NOTE: It may help to establish working parties to address all or some of these issues and report back to the DRMC



DRMCM review meeting
Complete a first draft of a 'Risk Register' and invites community and stakeholder comment
'Risk Register' out for external comment

DRMCM review meeting
Consolidates 'Risk Register' and invites RMC/EMT/LGCDC to comment and cross check
'Risk Register' out for wider Council comment

DRMCM review meeting
Analyses identified risks via working parties to rank and assign consequences
Risk statements prepared, ranking risks for each hazard

9. DRMCM completes preparation of the first draft of a Risk Register as an outcome of the foregoing risk identification process for each hazard. The Committee then seeks community and stakeholder comment on this first draft.

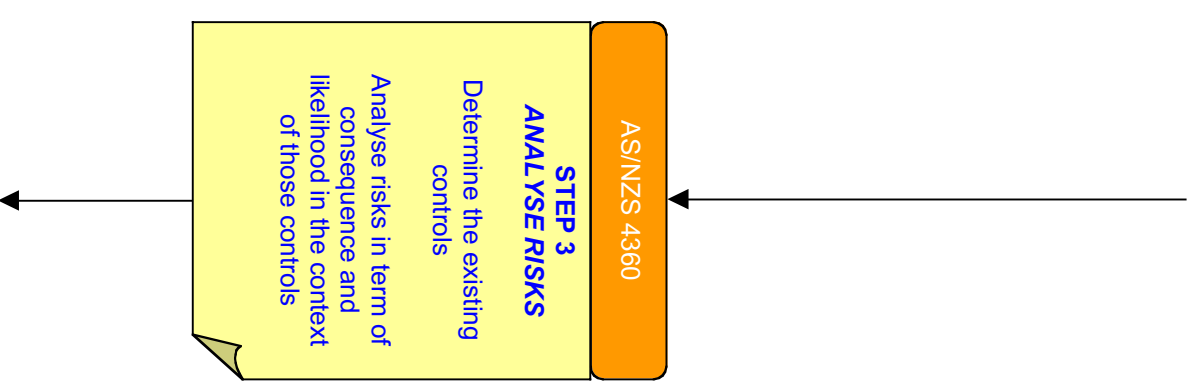
10. DRMCM consolidates first draft of the Risk Register, and forwards it to the RMC/EMT for critical review/comment, including any action required by RMC/EMT on implications the listing may have on other Council Corporate Governance plans, eg Corporate Plan, Town Plan and Operational Plan.

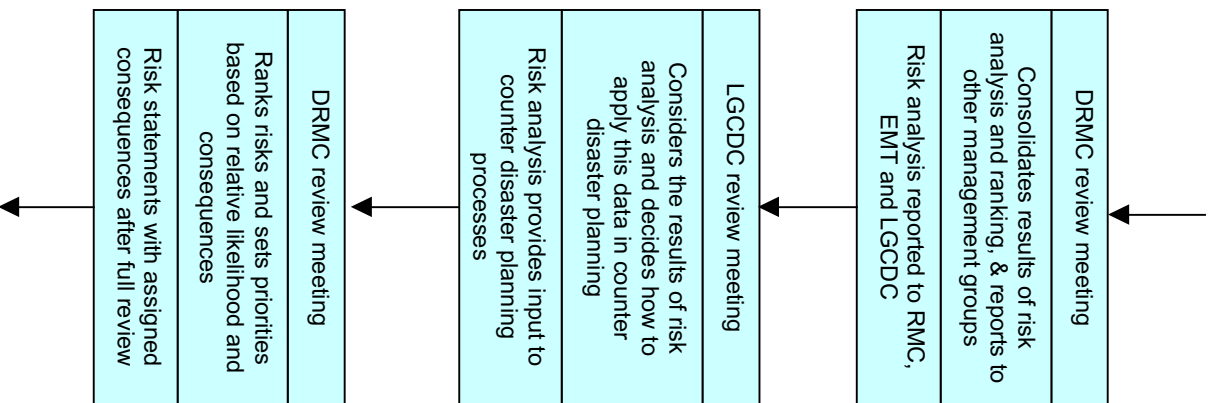
DRMCM also sends the Risk Register to the LGCDC for their critical review/comment, including any action required on implications for Council's Counter Disaster Plan.

11. DRMCM moves to Step 3 of AS/NZS 4360:1999 i.e. 'Analyse the Risks'. DRMCM establishes working parties as per step 2, to determine the likelihood and consequences of various risks, and to rank them.

**NOTES:**

1. This process should be undertaken as outlined in AS/NZS 4360. Community and stakeholder input should be sought during the process.
2. Throughout the whole risk management process, DRMCM must be cognisant of the requirement to prepare a final risk management report and disaster mitigation plan, and have these adopted by Council.



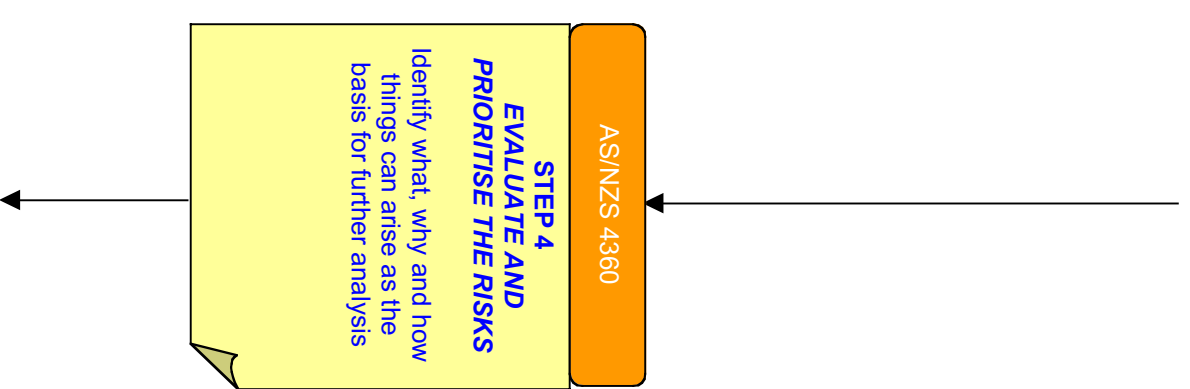


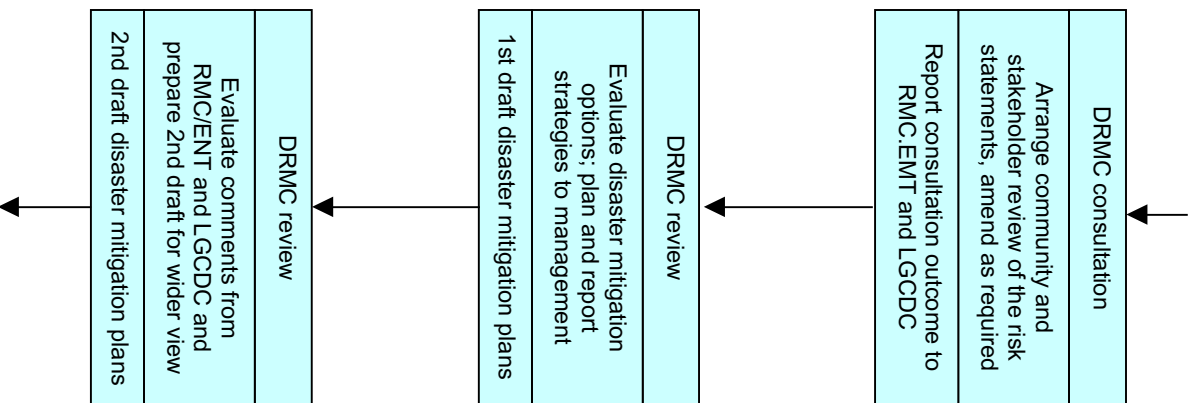
12. DRMC consolidates outputs from working parties including stakeholder and community input and reports to RMC/EMT and LGCDC

13. LGCDC meets to consider outputs from Step 3 of AS/NZS 4360:1999 i.e. ‘Analyse the Risks’ and determine inputs required to counter disaster plans and operations. If necessary, sub committees should be appointed to address any deficiencies in plans and procedures, and report back to the LGCDC with recommended actions.

14. DRMC moves to Step 4 of AS/NZS 4360:1999 i.e. ‘Evaluate and prioritise the Risks’ to begin:

- comparing levels of risk against the previously established risk evaluation criteria;
- setting risk priorities based on likelihood and consequences; and
- deciding on risk acceptability using acceptability criteria established in the risk statements determined earlier in Step 2.





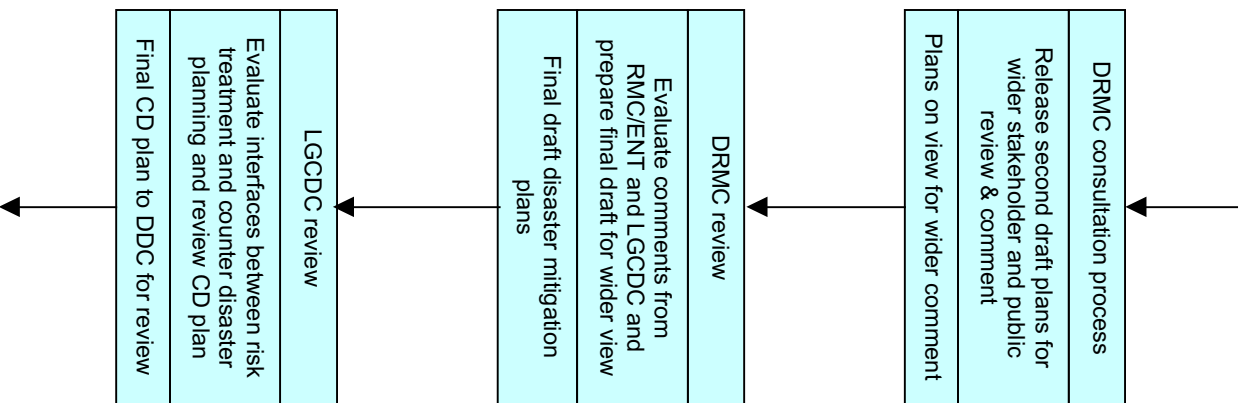
15. DRMC takes the results of the previous Step 4 to the community and stakeholders for comment and input. The Committee then considers results of consultation and makes appropriate amendments, before reporting to RMC/EMT and the LGCDC.

16. DRMC moves to Step 5 of AS/NZS 4360:1999 i.e. 'Treat the Risks' and begins to identify prevention, preparedness, response and recovery options.

- The Committee has to:
- evaluate options;
  - select mitigation options;
  - plan strategies for implementing mitigation options, i.e. risk treatments;
  - involve the RMC/EMT and the LGCDC in these processes; and
  - progress the development of the draft final risk management report and the draft disaster mitigation plans.

17. DRMC forwards draft risk management report and disaster mitigation plans to RMC/EMT and LGCDC for consideration. Any feedback should be discussed in the Committee and necessary amendments incorporated into a second draft of the report and plans for release to a wider community and stakeholder review.



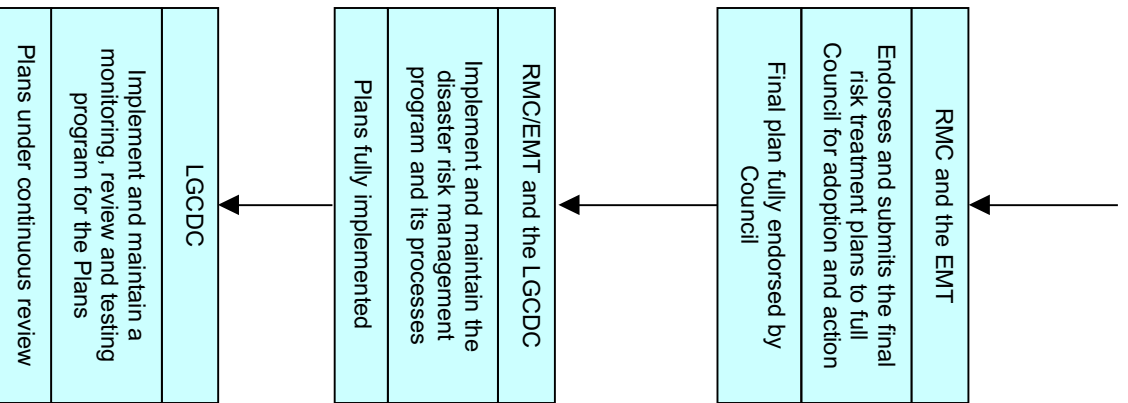


18. DRMC, in conjunction with RMC/EMT and LGCDC, releases disaster risk management report and disaster mitigation plans onto display and invites stakeholder (including all State agencies) and public comment.

19. DRMC considers public and stakeholder comment received, and prepares final disaster risk management report and disaster mitigation plans. When completed and endorsed by the whole Committee, the Chair signs off the final disaster risk management report and disaster mitigation plans, and presents them to RMC/EMT and LGCDC.

20. LGCDC receives the final disaster risk management report and disaster mitigation plans and updates its Counter Disaster plan to include a summary of the risk management process, vulnerabilities and risk treatment options. LGCDC signs off its revised Counter Disaster plan and submits it to the District Disaster Coordinator (DDC) for review. After review by the DDC the LGCDC forwards the final Counter Disaster Plan to the Council for endorsement. DDC accepts the Counter Disaster Plan following formal ratification by Council (see step 21).



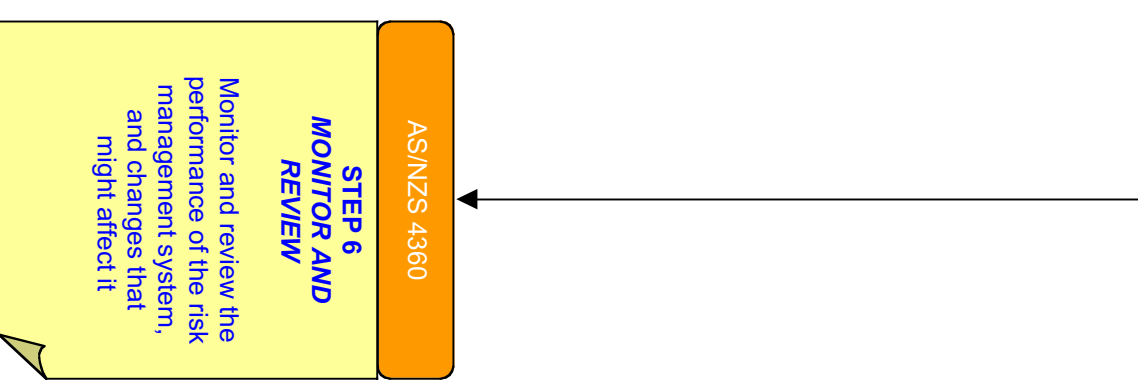


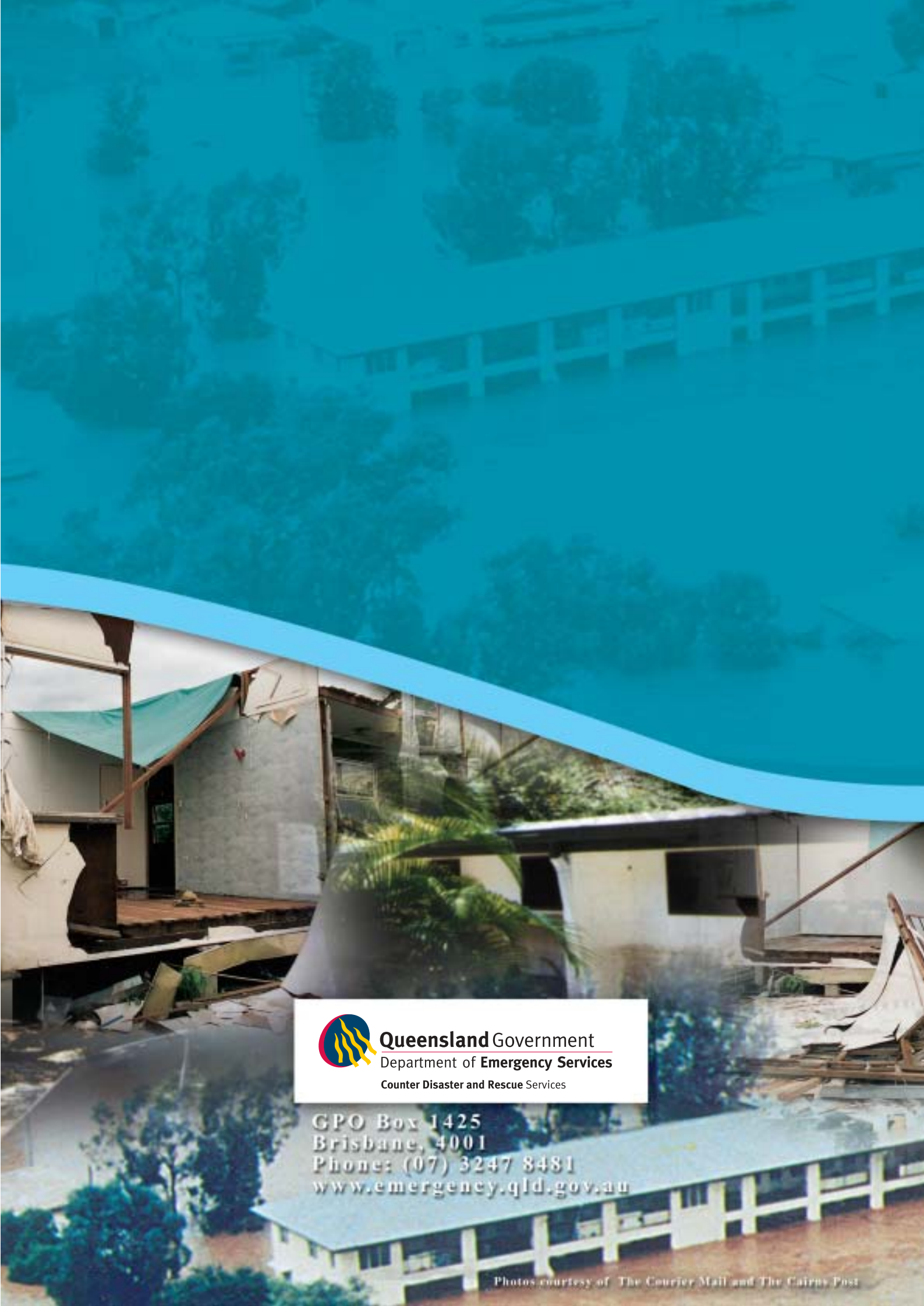
21. RMC/EMT receives the final disaster risk management report and disaster management plans and submits them to full Council for:
- formal receipt, ratification and sign off on the disaster risk management report and disaster mitigation plans;
  - inclusion of outputs of the disaster risk management process into the Council’s risk register;
  - appropriate recognition and action by Council Departments/Portfolios;
  - updating Council’s Corporate, Strategic, Town and Operational Plans; setting short, medium and long term strategies to implement treatment options through the operational plan process;
  - advice to DES, DLGP and DDC of completion of the disaster risk management process and forwarding a copy of the final plan.

22. RMC/EMT and LGCDC now can implement the disaster risk management program and maintain an ongoing review of the disaster risk management processes.

23. LGCDC can now begin a program of monitoring, review and testing of the LGCD Plan, in line with the final Step 6 of AS/NZS 4360:1999 i.e. ‘Monitor and Review’.

**NOTE:** To assist Local Governments document the process, forms to help in collecting information may be found in Sections 8 and 9.  
As each Local Government is unique, the forms and template are only guides.  
A whole-of-government matrix could be developed aligning issues to core business.  
DES District Managers are available to offer guidance in all aspects of the disaster risk management process and the development of counter disaster plans.





**Queensland Government**  
Department of **Emergency Services**  
Counter Disaster and Rescue Services

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[www.emergency.qld.gov.au](http://www.emergency.qld.gov.au)

*Photos courtesy of The Courier Mail and The Cairns Post*