

CDEM Resilience Fund project application form

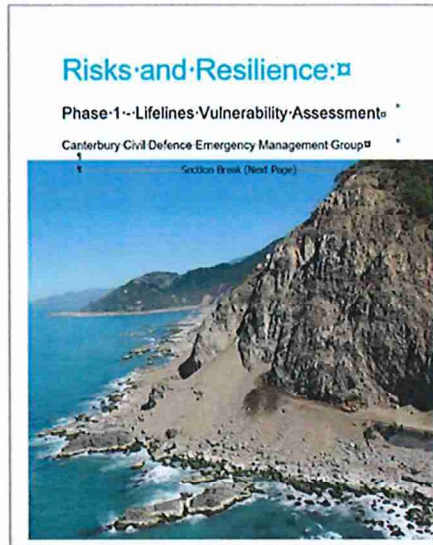
This form provides the minimum of information for the application; a detailed project plan should be developed to inform this application and may be attached.

Project title	Risks & Resilience: Using a new GIS portal and existing body of knowledge base to standardise and advance the maturity of vulnerability assessments and resilience-focused investment business cases
Date of application	14 June 2021
Details on application	
Applicant <i>(Note: CDEM Group must endorse/sponsor all applications)</i>	Canterbury CDEM Group on behalf of the Canterbury Lifeline Utilities Group
Sponsoring CDEM Group	Canterbury
Other local authorities, Groups or organisations supporting this proposal	Lifeline utilities and local authorities such as Orion, Waimakariri District Council and others
Project description	
<p>Executive summary [200 words maximum description]</p> <p>This project is intended to “connect the dots” in relation to tools, resources, knowledge, and practice in use throughout NZ, with the aim of facilitating informed, up-to-date, efficient vulnerability and resilience assessments using a lifelines GIS portal. A standardised maturity-based approach will be developed along with a to be agreed data schema for lifeline utilities that can be applied across the country.</p> <p>It will include engagement with the lifelines sector, universities, research agencies as well as a wide range of stakeholders and Iwi, drawing on research outputs such as Resilience to Natures Challenges and tools such as MERIT and, in the future, RiskScape. It will develop an “intermediate” approach that lies between the current methodology for vulnerability assessments and the more advanced “Wellington business case” approach.</p> <p>From a Canterbury perspective, this “intermediate” approach will make tangible progress on Phase 2 of the Risks & Resilience project, utilising the GIS portal and information documented in Phase 1 (Vulnerability Assessment). The intent is to identify and evaluate potential social, economic and cultural impacts arising from both hazard events and climate change, including the use of MERIT.</p> <p>It is anticipated that this work will be valuable to the wider lifelines sector in improving resilience outcomes elsewhere.</p>	
<p>Challenge/opportunity [200 words maximum description]</p> <p>Canterbury Lifelines is completing a vulnerability assessment of the region’s infrastructure networks and the hazards that could disrupt these networks. This is Phase 1 of the “Risks & Resilience” project and has been fully funded by the Canterbury CDEM Group.</p>	

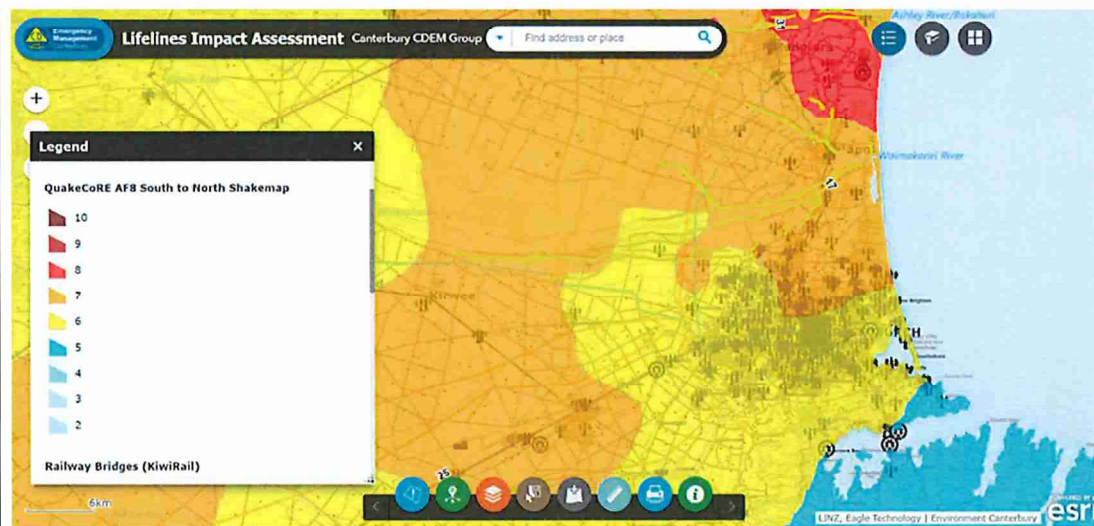
In parallel, Environment Canterbury has developed a GIS-based lifelines portal that can be used either in resilience planning or in response. It currently displays feeds from a range of open sources, including some lifeline utilities, social and demographic data, hazard data, etc. Further work is however necessary in closing data gaps and securing missing data from some lifeline utilities. An image is displayed below.

The opportunity now is to build on this work, close the data gaps, and produce a methodology and resources that can be used at local, regional or national level for resilience planning.

A key national issue is the lack of a common data schema for lifeline utilities. This makes it less efficient in responding to calls for data from the regions. There is also a significant gap between traditional "core" vulnerability assessment practice and the "advanced" business case work completed by Wellington lifelines.



A further key challenge is the need to "join the dots", understanding how the available tools and resources can be used in a pragmatic way to improve cross-sectoral lifelines risk reduction



Alignment with priorities and objectives of the National Disaster Resilience Strategy (NDRS) [200 words maximum description]

The work is expected to primarily contribute to the following key NDRS priorities and objectives. While this project is focussed on risk reduction and resilience planning, there are also expected to be secondary benefits relating to response to emergencies (priority 2) as well as a range of other objectives within these areas.

Priority	Objectives	Proposal
1. Managing risks	1. Identify and understand risk and use this knowledge to inform decision-making	Proposes an "intermediate" level methodology for integrated vulnerability assessment and business case decision-making at a local, regional or national level
	6. Understand the economic impact of disaster and disruption, and the need for investment in resilience; identify and develop	Uses the MERIT tool to better understand the impact of hazard events in Canterbury

	financial mechanisms that support resilience activities	
3. Enabling, empowering, and supporting community resilience	16. Address the capacity and adequacy of critical infrastructure systems, and upgrade them as practicable, according to risks identified	Extends the knowledge of current infrastructure in Canterbury and will highlight where resilience investment is desirable

National Disaster Resilience Strategy

Working together to manage risk and build resilience

Our Vision

New Zealand is a disaster resilient nation that acts proactively to manage risks and build resilience in a way that contributes to the wellbeing and prosperity of all New Zealanders.

Our Goal

To strengthen the resilience of the nation by managing risks, being ready to respond to and recover from emergencies, and by enabling, empowering and supporting individuals, organisations, and communities to act for themselves and others, for the safety and wellbeing of all.

We will do this through:

1 Managing Risks

2 Effective Response to and Recovery from Emergencies

3 Enabling, Empowering, and Supporting Community Resilience

OUR OBJECTIVES

1. Identify and understand risk scenarios (including the components of hazard, exposure, vulnerability, and capacity) and use this knowledge to inform decision making
2. Put in place organisational structures and identify necessary processes – including being informed by community perspectives – to understand and act on reducing risks
3. Build risk awareness, risk literacy, and risk management capability, including the ability to assess risk
4. Address gaps in risk reduction policy (particularly in the light of climate change adaptation)
5. Ensure development and investment practices, particularly in the built and natural environments, are risk aware, taking care not to create any unnecessary or unacceptable new risk
6. Understand the economic impact of disaster and disruption, and the need for investment in resilience; identify and develop financial mechanisms that support resilience activities

7. Ensure that the safety and wellbeing of people is at the heart of the emergency management system
8. Build the relationship between emergency management organisations and iwi/groups representing Māori, to ensure greater recognition, understanding, and integration of iwi/Māori perspectives and tikanga in emergency management
9. Strengthen the national leadership of the emergency management system to provide clearer direction and more consistent response to and recovery from emergencies
10. Ensure it is clear who is responsible for what, nationally, regionally, and locally, in response and recovery; enable and empower community-level response, and ensure it is connected into wider coordinated responses, when and where necessary
11. Build the capability and capacity of the emergency management workforce for response and recovery
12. Improve the information and intelligence system that supports decision making in emergencies to enable informed, timely, and consistent decisions by stakeholders and the public

13. Enable and empower individuals, households, organisations, and businesses to build their resilience, paying particular attention to those people and groups who may be disproportionately affected by disasters
14. Cultivate an environment for social connectedness which promotes a culture of mutual help; embed a collective impact approach to building community resilience
15. Take a whole of city/district/region approach to resilience, including to embed strategic objectives for resilience in key plans and strategies
16. Address the capacity and adequacy of critical infrastructure systems, and upgrade them as practicable, according to risks identified
17. Embed a strategic, resilience approach to recovery planning that takes account of risks identified, recognises long term priorities and opportunities to build back better, and ensures the needs of the affected are at the centre of recovery processes
18. Recognise the importance of culture to resilience, including to support the continuity of cultural places, institutions and activities, and to enable the participation of different cultures in resilience

Alignment with Principles and Allocation Preferences [200 words maximum description]

In making this application, we also recognise the need for alignment with the principles and allocation preferences underpinning the Resilience Fund. This is summarised below.

Principles	Alignment
NEMA provides leadership	Yes – proposal is aligned with NEMA goals
fair and transparent applications-based process	Yes – noted
Fund available to CDEM Groups	Yes – owned by Canterbury CDEM
Local/Regional focus	Yes – both levels and scalable potentially
Valuing the role of Māori	Yes – cultural values and impacts recognised
Include provision for NEMA involvement	Yes – this will be valued

Allocation Preferences	Alignment
Alignment with NDRS	Yes – as noted above
Achieving equity of outcomes for Māori	Yes – will address lifelines impacts on Māori
Outcome focused	Yes – delivers tangible resilience-focussed outputs for both Canterbury and NZ
Applicable in other regions	Yes – can be utilised at regional or local levels
Enables national consistency	Yes – helps standardise and improve practice
Projects that serve as seed funding/kick start other funding	Yes – further stages highlighted for more advanced work, “road map” to advanced maturity
Builds on existing work	Yes – existing Canterbury and NZ work

Application of outcomes/benefits to sector [200 words maximum description]

The project will describe current “core” practice vulnerability assessments, develop “intermediate” practice allowing broad-brush economic assessment using MERIT, leading into “advanced” business case approaches and data sophistication using tools such as RiskScape.

It will explore available tools, resources, knowledge and approaches, integrating these with a more fully developed GIS portal and defined data schema. This will be applied in Phase 2 of the Risks & Resilience project for Canterbury.

For either regional lifelines groups or single lifeline utilities the intention is to deliver a GIS portal that will:

- Enable up to date sharing of current hazards data – insofar as it is available via live feed or agreed data sharing arrangements
- Incorporate a standardised data model / data schema for lifeline utilities
- Provide up to date information relating to infrastructure networks, with data in an agreed format including attributes such as criticality
- Provide access to open-source data relevant to lifelines planning
- Allow users to populate their own local data layers as required

Dissemination will also include:

- Report(s) being made available to the wider lifelines community and NZ Lifelines Council Presentation(s) to National Lifelines Forum and other stakeholder groups.

Ongoing costs (post project) and how it will be funded [Please provide a summary of ongoing costs (if any) and how it will be funded/managed - 200 words maximum]

A financial and resource spreadsheet has been prepared for budgeting purposes and is attached to this application. Project costs are detailed by milestone below.

It is anticipated that this will achieve completion of the pilot “intermediate” assessment using the MERIT tool. Beyond that, the intention will be to:


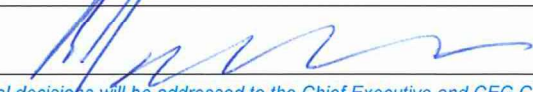
- Refine the approach as necessary
- Expand the analysis to cover the whole region
- Look to use RiskScape 2.0 to provide deeper analysis where appropriate and where data is suitable for the purpose



A further application may be made to the Resilience Fund for further work in this regard. Consideration will also be given to seeking funding support from EQC and other sources as well as individual lifeline utilities to whom the outcomes of this project will deliver benefits. Ongoing CDEM Group funding support may also be available to contribute to further work as it has done so in recent years.

Project design		
Project manager	Mark Gordon (Canterbury Lifelines Group Project Manager)	
Other project members	Steve Ferriss, Martyn Wooster, Warren Ladbroke, Lisa Roberts	
External providers/contractors	ResOrgs, Market Economics, University of Canterbury	
NEMA Resource (if required)	Principal Advisor, Infrastructure Resilience	
Deliverables <i>[Note: payments will be made after successful completion of milestones identified]</i>		
Key Milestones	Date for completion	Cost (Invoice Amount) (Resilience Fund)
Project Management	July 2021 to June 2022	\$8,000 (to be pro-rated below)
Milestone 1 – Scanning stocktake report	31 August 2021	\$36,000
Milestone 2 – Report describing the "Integrated Approach" with recommendations for application at different maturity levels	15 October 2021	\$28,000
Milestone 3 – Agreed participation in pilot "intermediate" level analysis, defined scope of analysis, agreed data schema and required data attributes for the pilot.	15 December 2021	\$38,000
Milestone 4 – GIS portal ready for use, data compiled, report on implementing the "Integrated Approach".	31 March 2022	\$50,000
Milestone 5 – Conduct and report on pilot intermediate level analysis using MERIT	30 June 2022	\$80,000
Identified risks		
Risks	Suggested mitigation / management	
Time and cost exceed budget estimate	Milestone cost reviews and revise scope to stay on budget	
Key staff become unavailable	Ensure other team members are able to take over roles	
Data accessibility – e.g. confidentiality	Subscribe to data feeds and enter into MoU as appropriate	
External costs – while nominal provision has been made to use external tools (e.g. MERIT) should costs exceed those allowed changes to the budget / scope of work may be necessary	Once funding has been approved formally engage with providers (in particular, MERIT)	
Funding request and use		
CDEM Resilience Fund contribution	\$175,000	
Local authority/organisation contribution	Substantial investment in work to date by Canterbury CDEM and ECan – namely, Phase 1 Risks & Resilience and development of the lifelines GIS portal. Anticipated CDEM contribution for 2021/22 \$30,000 plus CDEM personnel and lifeline utilities "time in kind".	



Other sources of funding or support	University of Canterbury - \$15,000 (research grant). The possibility of securing co-funding / co-involvement from the Resilience to Natures Challenges programme is being explored. An initial allowance of \$20,000 has been included for analysis and research support. Further contributions could allow the scope of work to be expanded or advanced. Following completion of this project, the use of RiskScape 2.0 will be addressed for more advanced work – subject to availability of the appropriate data. This may be the subject of a future application to the Resilience Fund, with the possibility of EQC funding also being explored.
Budget <i>[Please supply spreadsheet]</i>	\$240,000 – spreadsheet attached
Applies if application exceeds \$100,000 over the life of the project	Are you prepared to attend an interview in support of this application (if needed)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Application confirmation	
Is this application from an individual or other organisation (not CDEM Group)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Does the CDEM Group support this application? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>(Sign-off below confirms support)</i>	
Approval of Chief Executive <i>(Chief Executive or Head of the organisation receiving the funding)</i>	
Approval of CEG Chair	
<i>All communications regarding the application, including approval decisions will be addressed to the Chief Executive and CEG Chair</i>	
CDEM Group comment	
The Canterbury CDEM Group supports this application. The project is designed to take some of the learning from work done by the Wellington Lifelines and put it into a format that allows the work to be undertaken by Canterbury as well as other CDEM Groups.	

Note: Only complete forms will be considered for assessment. All completed forms and supporting documents must be emailed to NEMA on Resilience.Fund@nema.govt.nz

NEMA Assessment (Internal Use Only)		
Principles	Yes	No
Local/Regional Focus	<input type="checkbox"/>	<input type="checkbox"/>
Valuing the role of Maori in Emergency Management System	<input type="checkbox"/>	<input type="checkbox"/>
NEMA involvement required	<input type="checkbox"/>	<input type="checkbox"/>
Allocation Preferences		
Alignment with NDRS	<input type="checkbox"/>	<input type="checkbox"/>
Achieving equity of outcomes for Māori communities, marae, hapū, iwi, and Māori organisations.	<input type="checkbox"/>	<input type="checkbox"/>
Outcome focused	<input type="checkbox"/>	<input type="checkbox"/>
Applicable in other regions/CDEM Groups	<input type="checkbox"/>	<input type="checkbox"/>

Enables national consistency	<input type="checkbox"/>	<input type="checkbox"/>
Wider funding/resource commitment (i.e. co-funding, on-going funding, resource time committed)	<input type="checkbox"/>	<input type="checkbox"/>
Builds on existing work	<input type="checkbox"/>	<input type="checkbox"/>
Operational expenditure (Opex)	<input type="checkbox"/>	<input type="checkbox"/>
Capital expenditure (Capex)	<input type="checkbox"/>	<input type="checkbox"/>
Other		
Application from individuals or other organisations endorsed/sponsored by CDEM Group	<input type="checkbox"/>	<input type="checkbox"/>
NEMA Subject Matter Expert Comment Supported <input type="checkbox"/> Not supported <input type="checkbox"/>		
NEMA Regional Emergency management Advisor Comment Supported <input type="checkbox"/> Not supported <input type="checkbox"/>		
NEMA Review Panel Comment Supported <input type="checkbox"/> Not supported <input type="checkbox"/>		
NEMA Director Decision Sign-off Approved <input type="checkbox"/> Declined <input type="checkbox"/>		
<hr/> Director of Civil Defence Emergency Management		

