



CDEM Resilience Fund project application form

6

Application for CDEM Resilience Collaborative fund approval	
Project title	Tsunami Warning System
Date of application	10-02-2012
Details on application	
Lead local authority	Opotiki District Council
CDEM Group	Bay of Plenty
Other local authorities or Groups supporting the proposal	Whakatane District Council
Project description	
<p>Executive summary <i>[200 words maximum description.]</i></p> <p>The Bay of Plenty CDEM Group has opted to use a suite of alerting systems to ensure maximum coverage across the districts for alerting the public to a major emergency.</p> <p>Existing New Zealand Fire Service (NZFS) sirens have been used to provide an additional warning system at a minimal cost in other areas of the country. This is currently used in Thames Coromandel and in the Western Bay of Plenty District and by implementing this method in the Opotiki and Whakatane Districts we will be aligning our a tsunami warning system along the majority of the Bay of Plenty coastline.</p> <p>The proposal is to convert existing NZFS sirens to produce a continuous rise siren for a period of 10 minutes, which can be activated via a pager number. Gaps in coverage will require additional sirens to be installed at identified locations. <i>(See maps attached for existing locations and possible additional siren locations).</i></p> <p>This project will provide an additional means of alerting the community where currently few effective methods are available.</p>	
<p>Problem/opportunity <i>[200 words maximum description.]</i></p> <p>The Eastern Bay of Plenty coastline presents many challenges for alerting communities to the threat of a tsunami. There is an opportunity to not only increase our ability to alert the community in areas with poor coverage, but also in the more built up areas of the Eastern Bay of Plenty, by providing an additional method to those currently available for use.</p> <p>During the summer many of the Eastern Bay towns have a vastly increased population. This results in difficulty alerting, as visitors are not aware of local systems, such as Readynet. An audible siren is a distinctive and simple way to ensure that residents and visitors can be alerted.</p> <p>With this method currently being used in other areas, the proposal will present an opportunity to provide a consistent and affordable approach to warning the public along a large section of the BoP coastline.</p> <p>The system will still rely upon the media to provide details of the emergency and what to do. In areas with poor coverage where this might not be possible VHF radios have been placed to communicate messages to the community.</p>	

Alignment with identified goals and objectives [200 words maximum description.]

On a national level this proposal will help to achieve Goals 1 + 3 through the education campaign that will go alongside the siren installation and the improvement in our ability to warn the community.

At a regional level this proposal supports Goal 3 – Readiness in the Draft Bay of Plenty CDEM Group Plan 2011. The proposal will contribute towards achieving objective 3a – implement effective alerting and communication systems to enable agencies and the community to respond rapidly and appropriately to an emergency.

The implementation of this system will also support Goals 1 + 2 of the BOP CDEM Group Plan 2011 through the education programme that will go alongside deployment of the system. This will help to achieve objectives 1b and 2b of the draft plan, both of which are related to increasing community awareness of hazards and the ability of the community to respond in an emergency.

Dissemination of benefits to sector [200 words maximum description.]

Dissemination of the benefits of the system will be done using existing channels, such as the CDEM sector news letters (National and Regional), Impact magazine and through other emergency related materials (NZFS magazine).

Project design

Project manager	Jim Tetlow, Eastern Bay of Plenty Emergency Management Co-ordinator
Other project members	Ian Castles, Opotiki District Council EMO Graeme Easton, New Zealand Fire Service
External providers/contractors	Siren providers, NZFS electrical contractor


Deliverables

Milestone	Date for completion	Cost
Conversion of existing NZFS Sirens	August 2012	\$5,000
Public education campaign	November 2012	\$5,000
Installation of additional sirens	June 2013	\$17,500

Identified risks

Risk	Suggested management
Public unaware of what siren means	Public education campaign and information boards to state what to do when siren is heard (switch on radio for information etc)
Some areas have poor radio / cell phone reception	Use alternative methods to get messages out (VHF radios etc)
System could go off accidentally	Operated by dialling a pager number, so unlikely to go off accidentally
Power disruption	Unknown at present if there is a way to prevent this from affecting the system

Funding request and use

CDEM resilience fund contribution	\$17,500 for 3 additional sirens at identified locations (See coverage maps attached)
Local authority contribution	\$10,000 for conversion of existing sirens and public education campaign
Other sources of funding	
Expenditure <i>[Please supply details]</i>	<p><u>Conversion of existing sirens</u></p> <p>\$5,000 for 7 sirens across Opotiki and Whakatane</p> <p><u>Public education campaign</u></p> <p>\$5,000 to be used for media campaign during testing period, information signage and information leaflets for residents</p> <p><u>Installation of additional sirens</u></p> <p>Siren units (Max. 4km range) approx. \$10k (for 3 additional sirens) Installation of siren and NZFS pager board approx. \$2500 per unit (\$7,500 total including contractor expenses)</p>
Application confirmation	
Approval of Chief Executive	
CDEM Group comment	
Comment	
Approval of Coordinating Executive Group Chair	

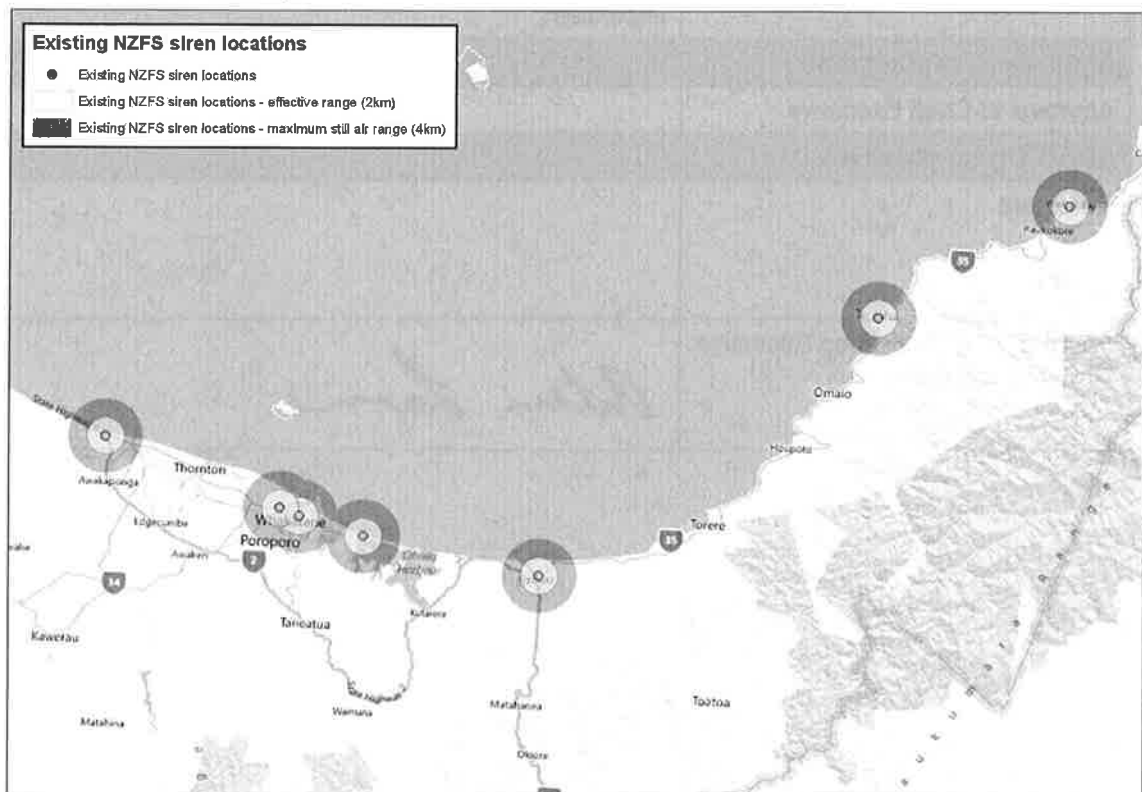
Using NZFS sirens to create a tsunami warning system

Currently there are 6 NZFS sirens located within coastal areas. These are located in:

Matata
Whakatane
Ohope
Opotiki
Te Kaha
Waihau Bay

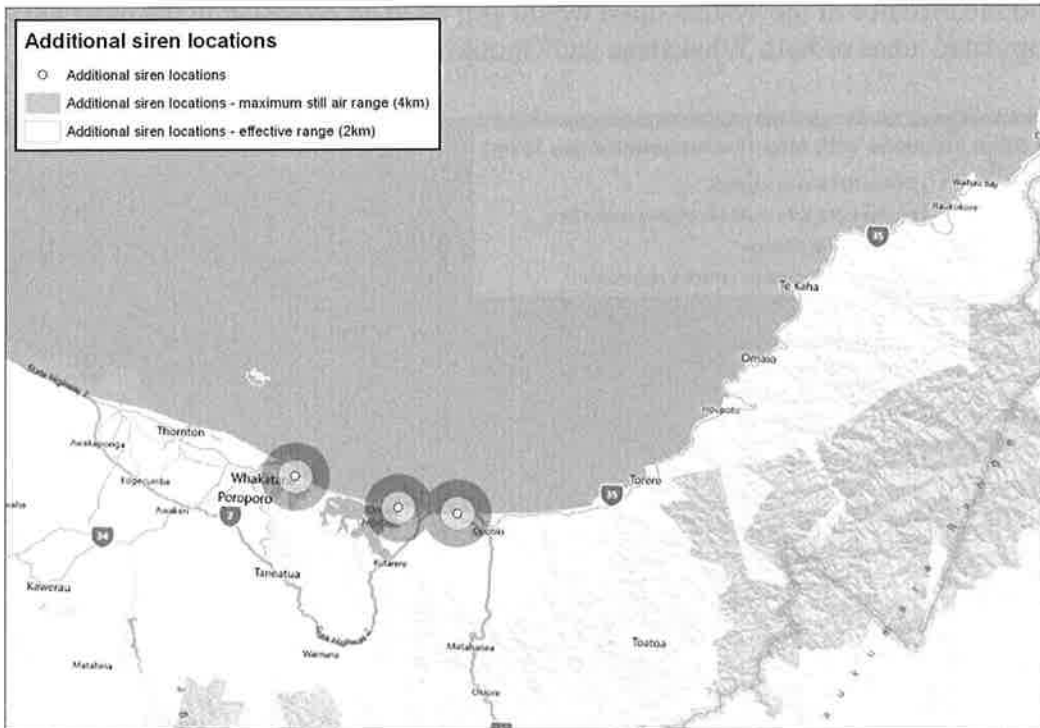
Another non-NZFS siren, which can also be used, is located at the Whakatane Board Mills.

The sirens used at these stations have a maximum audible range of around 4km (50db @4km) when used in still air conditions. However, a large part of the time they achieve less than half of this range due to wind effect and topography. The map below shows the locations of current NZFS sirens and their effective ranges (which has been set at 2km to allow for other effects).



The vast majority of the Eastern Bay coastal population is located in the areas between Matata and Opotiki, with the areas between Whakatane and Opotiki being the most heavily populated areas. In order to ensure maximum coverage in these areas at the reduced audible range of 2km there is a need to place an additional 3 sirens at locations between existing NZFS sirens.

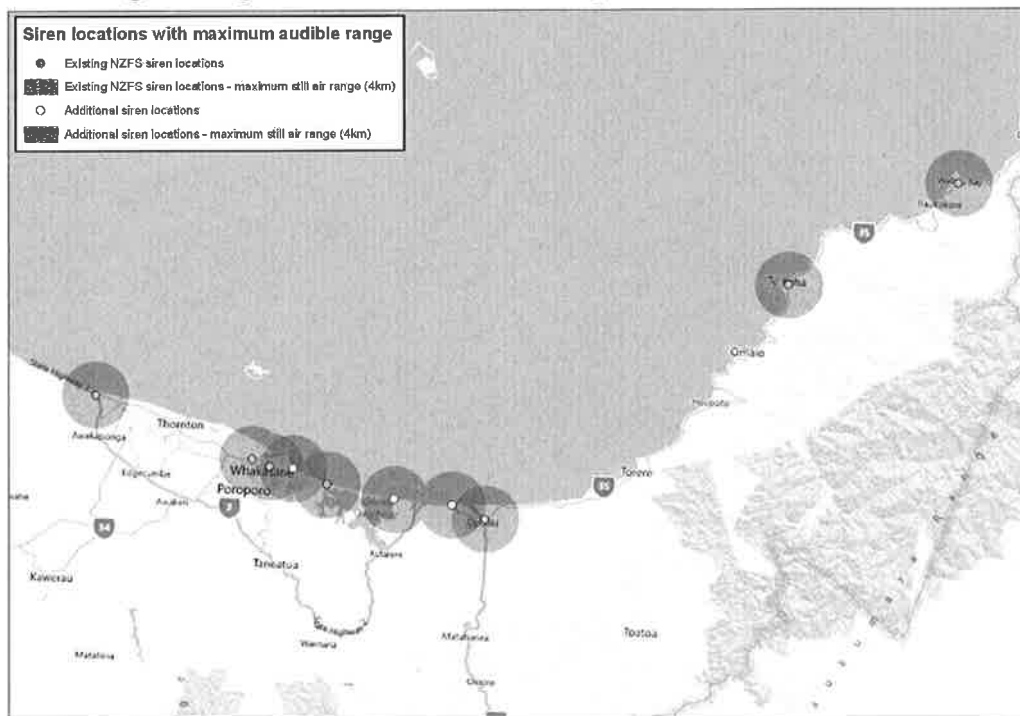
The map below shows the locations of these additional sirens and the audible ranges.



The locations for these sirens are:

- Ohope West End
- Ohiwa
- Waiotahi Beach

The following map shows the maximum coverage (50db @ 4km) that would be achieved from converting existing NZFS sirens and installing additional sirens.



The map below shows the effective coverage for the sirens (2km). Even at the reduced audible distance of the system there would still be good coverage in the most heavily populated areas of both Whakatane and Otopiki districts.

