



Emergency Flood Plan

Tangimoana Flood Action Plan

Version 3.0
May 2023

DOCUMENT REVISION HISTORY

Version Number	Date	Comment
1.0	June 2010	On issue.
2.0	October 2014	Annual review. Amended appropriate trigger levels, summary of timelines & plan of action. Culvert location details inserted.
2.1	12 May 2015	Updated post exercise 7 May 15. Objective amended. Summary of timelines tables combined into one. Plan of action updated. Map (3.3) amended to show stopbanks, floodgate, culverts and flood flow direction.
2.2	February 2017	Annual review. Ops DO replaced with RMDO.
2.3	November 2019	Annual review – minor changes only
2.4	June 2021	Annual review – minor changes and format changes.
3.0	May 2023	Review to remove references to flood barrier, update in line with current practices and provide consistency across all Flood Action Plans.
3.1	TBC	Review of hydrology and design information, including stage heights, return periods and travel times.

Author

Ian Lowe

Manager, Emergency Management Office, Horizons Regional Council

Updated By

Jeanie Ferry

Senior Emergency Management Coordinator

David Rei Miller

Operations Manager – River Management

CONTACT | 24hr Freephone 0508 800 800

help@horizons.govt.nz

www.horizons.govt.nz

SERVICE CENTRES

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Cnr Rongotea &
Kairanga-Bunnythorpe Rds
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Taihape
Torere Road
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POSTAL ADDRESS

Horizons Regional Council, Private Bag 11025, Manawatū Mail Centre, Palmerston North 4442 | F 06 9522 929

CONTENTS

1	Introduction	2
1.1	Purpose of Plan	2
1.2	Description of the Risk	2
1.3	Trigger Levels	3
1.3.1	Intentional Lowering/Breaching of Stopbank	3
1.4	Locations for Intentional Stopbank Lowering	3
2	Objectives	3
3	Combined Plan of Action and Stage Heights	4
3.1	Summary Timeline Comparisons	4
3.2	Plan of Action	6
3.3	Culvert Locations and Flood Flow Direction	8
3.4	Culvert List	10
4	Evacuation Details	10
4.1	Declaration Status	10
4.2	Activation of Emergency Operations and Civil Defence Centres – Manawatū District Council	10
4.3	Evacuation Zone	11
4.4	Notification and Evacuation of Residents	11
4.5	Traffic Cordons	12
4.6	Scene Security	12
4.7	Lifeline Utilities	13
4.8	Considerations for Return of Residents	13
5	Waterline and IVR Notification	13
6	Resource Needs	14
6.1	Manawatū District Council	14
6.2	Horizons Regional Council	14
7	Information Flow	15
8	Communications Plan	15
8.1	Radio Networks	17
9	Health and Safety	18
10	Distribution	18
	Appendix 1 - Maps of Floodable Areas	20

1 Introduction

This Flood Action Plan (the Plan) has been developed as a joint effort between staff of Horizons Regional Council (HRC or Horizons) and Manawatū District Council (MDC) in order to coordinate responses to a potential flood from an over-topping or breach of the flood protection work surrounding Tangimoana. The Plan outlines the actions of staff and contractors of both councils at various river heights. The Plan also provides guidance to the Local and Group Controllers for Civil Defence and emergency services.

1.1 Purpose of Plan

The purpose of this Flood Action Plan is to outline actions to be taken in order to provide early warning to residents at Tangimoana, as well as protection for their lives and property, in the event of a flood from the Rangitikei River (fluvial) and/or ponding of rainwater (pluvial).

1.2 Description of the Risk

The Rangitikei River is the boundary between Manawatū District in the south and Rangitikei District in the north. The settlement of Tangimoana lies on the southern (true left) bank and Scotts Ferry on the northern (true right) bank of the river, near the mouth of the river. During the 2004 flood, the township of Tangimoana was seriously flooded, firstly by direct outflows from the Rangitikei River and, subsequently, from flood flows from a breach of the stopbanks some 1.5 km upstream of Punga Street, Tangimoana.

Flood protection improvement works were completed in 2010-2012 such that the settlement is now protected to the 2% AEP design standard, including 600 mm of freeboard upstream of Domain Road and 400 mm downstream. In addition, provision was made in the design for 20 years of bed aggradation. Accordingly, at the present time a very high standard of protection is provided, however this will progressively revert to the 2% (50-year) standard (excluding freeboard) in 20 years' time.

Note: Freeboard is a provision for accuracy of the river modelling and those factors not considered such as aggradation, waves, cross winds etc. This is because levels may be slightly higher (or lower) than forecast).

Included in the recent works was the construction of a new stopbank between Anga Street and Kina Street, to prevent flood waters backing up from the old river loop and estuary. Such backing up, initially within drainage channels, commences around the 20-year event. At the time of construction, the facility for a removable flood barrier was installed. This needed to be manually installed and subsequently removed. Recent work to complete the stopbank instead has meant that this flood barrier is no longer required. This version of the Plan has been updated accordingly.

The completion of the recent improvements has resulted in the settlement being effectively ring-banked. As a consequence, there is a risk in the event of an overtopping or breach within the stopbanks upstream of the settlement, of flood water being trapped within the ring banks, with resulting depths of inundation being greater than would have previously occurred.

In that situation, sections of stopbank between Anga Street and Tangimoana Beach Road would need to be lowered to provide adequate flow egress.

This Plan outlines the response in situations where **intentional lowering of the stopbank** over defined sections between Anga Street and Tangimoana Beach Road is required, to minimise inundation depths within the settlement in the event of an upstream breach.

1.3 Trigger Levels

1.3.1 Intentional Lowering/Breaching of Stopbank

At the present time, an overtopping breach is unlikely in anything less than a 1% AEP flood (100-year). It is a certainty in a 0.5% AEP flood (200-year). However there is always some risk of a breach resulting from a structural failure and given the number of houses potentially affected, an earlier response is justified to take account of that risk.

A 15-20 tonne excavator must be on site in a 20-year event. It is to stay at Tangimoana until a decision is made on whether to carry out intentional lowering or breaching of the stopbank.

In the intervening time, flood levels should be monitored, initially in the EOC, but ultimately at Tangimoana, with the likelihood of an intentional breach being required at any time beyond a Rangitikei River at Mangaweka stage height of 8.2 metres, which equates to a 50-year flood. The ultimate decision to lower or breach the stopbank at defined locations will be made by the Incident Controller in the EOC.

Note. The time of travel of the flood wave from **Mangaweka to Tangimoana** is approximately **18 hours**.

1.4 Locations for Intentional Stopbank Lowering

Stopbanks can be mechanically lowered over the following sections:

- a) 60 m length at Tangimoana Road downstream of the town;
- b) 100 m length at Kuku Road; and
- c) 30 m length at Kina Street to give optimal lowering of impounded flood levels.

It is necessary to lower the entire section of stopbank to achieve the desired result.

The degree that flood levels can be lowered is significantly affected by the height of the Rangitikei River itself.

2 Objectives

- a. To manage the flood risk to Tangimoana, ensure the safety of the community and minimise damage to infrastructure/property; and
- b. Provide timely advice between HRC, MDC and emergency services in consideration of advance warning and evacuation.

3 Combined Plan of Action and Stage Heights

If there is any doubt as to how the situation might develop, response actions described in this plan should be initiated.

The following tables have been developed in an effort to describe potential timelines and to specify actions for agencies and individuals in relation to observed heights on the Rangitīkei River at Mangaweka. This Plan should be read in conjunction with:

- Horizons Emergency Response Manual
- Horizons Emergency Management Duty Officer's Guide
- Manawatū District Council Emergency Operations Centre Procedures
- Manawatū District Council Emergency Welfare Centre Procedures
- Manawatū-Whanganui Civil Defence Emergency Management Group Plan 2016-2021.

The plan of action and critical elements table can be divided into three parts:

- a) specific areas of concern and timings as they relate to the alarm level and the time of day,
- b) actions of Manawatū District Council, and
- c) actions of Horizons Regional Council.

The MDC facilities are located at:

Emergency Operations Centre
135 Manchester Street
Feilding
06 323 0000

Emergency Operations Centre (Alternate)

Feilding Fire Station
201 Kimbolton Road
Feilding

Civil Defence (Welfare) Centre

Te Kawai Memorial Recreational Centre
Wye Street
Rongotea
06 324 8060

The HRC Emergency Operations Centre is located at:

Te Ao Nui
17 Victoria Avenue
Palmerston North
0508 800 800

3.1 Summary Timeline Comparisons

Timings in Table 1 below (X times) are based on the 4.5 m alarm on the Rangitīkei River at Mangaweka. Time of day and time of year will also influence the final decision on the deadline for evacuation. Estimated rates of rise have been factored in at an average

at 0.5 m/hr although this will vary and could be as much as 0.8 m/hr. Forecast river heights will provide a better indication of actual rates of rise.

7.2 m at 1400 cumecs at Mangaweka equates to a 5% AEP event.

8.2 m at 1880 cumecs at Mangaweka equates to a 2% AEP event.

The correlation between the Mangaweka gauge and McKelvies gauge near Flock House is very good. Travel time between Mangaweka and McKelvies is around 11-14 hours.

Table 1: Rangitīkei River at Mangaweka – Stage Heights

X+	Stage (m)	Comment
0	4.5	4.5 m alarm provides heads-up notification to the RMDO Normal monitoring of river systems.
+1	5.0	
+2	5.5	5.5 m alarm provides heads-up notification to the EMDO regarding potential initiation of Phase 1. Consider the likelihood of exceeding 6.5 m.
+3	6.0	
+4	6.5	6.5 m alarm – if forecast to exceed 7.2 m, initiate Phase 1. Consider the likelihood of exceeding 7.2 m.
+5	7.0	
+6	7.2	If forecast to exceed 8.0 m, initiate Phase 2. EOC operational. Te Kawanu CDC activation initiated (operational within 2 hours).
+7	8.0	
+8	8.5	Te Kawanu CDC operational Residents being notified and evacuation underway. Horizons flood warning initiated
+9		
+10		
+11		
+12		
+13		
+14		Deadline for evacuation, security in place
+15		
+16		
+17		
+18	9.2	Potential over topping of stopbanks at Tangimoana

3.2 Plan of Action

Table 2 and Table 3 below outline actions to be taken at each of the two levels Phases described in this Plan.

Table 2: Plan of Action – Phase 1





6.5 m @ Mangaweka and Forecast to Exceed 7.2 m Phase 1 – Heads-up Monitoring			
 Manawātū District Council		 Horizons Regional Council	
Upon advice from the Horizons EMDO, the Emergency Management Officer will:	<ul style="list-style-type: none"> • Activate the EOC at a low level to monitor responses and liaise with Horizons and emergency services • Advise the Roading Manager • Advise a Local Controller • Advise the Emergency Management Committee • Advise the PIM 	The RMDO will:	<p>The RMDO has been monitoring river levels since the 4.5m alarm. Various other Operations activities have been occurring as a matter of course such as planning for checking of culvert flapgates etc. (refer Figure 1).</p> <p>In addition the RMDO will:</p> <ul style="list-style-type: none"> • Assess the potential for rainfall and river level forecasts to cause a flood with support from the EMDO and EDDO if required • Advise the EDDO of observations received from the field • Advise Horizons Incident Controller (IC) • Advise an excavator contractor to be on standby for possible stopbank lowering duties. 15-20 tonne excavator required. See Appendices for details of contractor(s). <p>Note: The excavator must be retained on-site to carryout mechanical lowering of the stopbank if required in Phase 2.</p>
The Roading Manager will	<ul style="list-style-type: none"> • Liaise with roading contractors to maintain a watching brief on the Rangitikei River and its effects on roads around Tangimoana. • Ensure roads are closed as necessary. 	The EDDO will:	<ul style="list-style-type: none"> • Prepare hydro information and weather forecasts for a briefing
		Upon advice from the EDDO or the RMDO, the EMDO will:	<ul style="list-style-type: none"> • Initiate a briefing for RMDO, EDDO, PIM Manager and the Horizons IC. • Identify the first shift for EOC activities. • Following the briefing, provide a 'heads-up' to MDC EMO and the Manager of EM Office. • Maintain a watching brief.
		The Horizons IC will:	<ul style="list-style-type: none"> • Activate EOC to Level 2 (Precautionary Activation). • Advise Operations Manager to deploy observation teams as required.
		When deployed, observation teams report to Operations Manager.	<ul style="list-style-type: none"> • Report actual freeboard being observed at priority areas for stop bank monitoring. • Send photos and/or video into the EOC using QuickCapture to form part of the Common Operating Picture (COP).
		Horizons PIM will:	<ul style="list-style-type: none"> • Liaise with the Horizons IC regarding any media releases regarding monitoring and website updates.

Table 3: Plan of Action – Phase 2

7.2 @ Mangaweka and Forecast to Exceed 8.0 m Phase 2 – Over Design Flood Imminent			
 Manawātū District Council		 Horizons Regional Council	
The Local Controller will:	<ul style="list-style-type: none"> Fully activate the EOC. Initiate a briefing (including a declarer) for response agencies and consider declaration for evacuation of Tangimoana. Coordinate the evacuation of Tangimoana consistent with the evacuation details described in Section 4.4 of this Plan. Liaise with the Horizons IC (or Group Controller in the event of an ECC activation). Liaise with elected members. 	Horizons Incident Controller will:	<p>The initiation of Phase 2 is the trigger to deploy the excavator and supporting resources to Tangimoana.</p> <ul style="list-style-type: none"> Activate the EOC to Level 3 (Full Activation). Advise MDC Local Controller of the situation and recommend evacuation. Mobilise resources for flood protection to priority areas as required (refer to EOC Operations Managers role below). Ensure a media release is prepared and distributed.
EOC Operations Manager will:	<ul style="list-style-type: none"> Coordinate CDC (Welfare) operations. Coordinate responses in the field, including door-to-door notifications in conjunction with FENZ and Police. 	EOC Response Manager will:	<ul style="list-style-type: none"> Establish and maintain the EOC to the required level. Monitor the situation for potential CDEM Group coordination and escalation from EOC to ECC operation. Consider the requirement of a safety function for the Health and Safety requirements of deployed field staff.
EOC Planning & Intelligence ¹ Manager will:	<ul style="list-style-type: none"> Monitor progress on this Plan. Receive intelligence and provide advice to the Controller. Prepare situation reports and briefings as required. Prepare shift plans. Support EOC operations. Maintain information in the EOC including maps and boards. Liaise with Horizons P&I Manager. 	EOC Operations Manager will:	<ul style="list-style-type: none"> Deploy field staff for maximum effect and observations. Initiate and report on all field activities. Deploy an excavator to Tangimoana to be on standby for mechanical breaching if required. Instruct breaching of the stopbank when the potential for excess ponding is determined. Advise the Logistics Manager of the staff resources deployed. Ensure operations are conducted in accordance with Health and Safety requirements and maintain regular contact with staff in the field if no safety function exists in the EOC
EOC Logistics Manager will:	<ul style="list-style-type: none"> Contact and provide purchase orders for all external contractors supplying goods and services. Ensure staff welfare is resourced including food and drink, safety equipment, and communications equipment. Ensure adequate staffing for EOC and CDC (Welfare) operations. Ensure transport is arranged for evacuees if required. 	EOC Logistics Manager will:	<ul style="list-style-type: none"> Conduct shift planning. Deploy resources as requested by EOC Operations Manager. Contact and provide purchase orders for all external contractors supply goods and services as required. Ensure staff welfare is resourced including food and drink, safety equipment, and communications equipment.
EOC Public Information Manager will	<ul style="list-style-type: none"> Liaise with Horizons PIM. Prepare and distribute approved MDC media releases detailing the local response by MDC and emergency services – ensuring these are consistent with Horizons information. Provide media briefings. Update MDC website and social media. 	EOC Planning / Intelligence Manager will:	<ul style="list-style-type: none"> Gather intelligence on the event and prepare situation reports. Monitor, review and amend this plan as necessary during the response.
FENZ Liaison Officer will	<ul style="list-style-type: none"> Liaise with the Local Controller to support evacuation. Make the local fire station available as a Centre. Liaise with Fire LO in the Group ECC if applicable. 	EOC Public Information Manager will:	<ul style="list-style-type: none"> Liaise with MDC PIM regarding messages to the public to ensure consistency of messages between authorities. Prepare and distribute Horizons media releases approved by the Horizons IC.
New Zealand Police Liaison Officer will	<ul style="list-style-type: none"> Liaise with the Local Controller to support evacuation and site security arrangements. Ensure that traffic safety requirements are being observed. Ensure that messages through the Police PIM are consistent with MDC and Horizons messages. Liaise with the Police LO in the Group ECC, if applicable. 		

¹ These are now separate CIMS functions, but in many low-level responses may be combined.

3.3 Culvert Locations and Flood Flow Direction



Figure 1: Culvert Flapgate Locations

Intentional Blank

3.4 Culvert List

Culvert locations are listed here and on the map on the previous page because they are important for Operations monitoring activity in the build up to a flood event.

The Punga St pump station is a Manawatū District Council asset (although construction was co-funded between MDC and Horizons).

Table 4: Stopbank Culvert Locations

No	Location	Size (m)
1	Kuku Street	0.375
2	Nuku Street	0.375
3	Anga Street	0.200
4	Anga Street	0.200
5	Punga Street (Pump Station)	0.225
6	Aru Street	0.650
7	Ellison Reserve Outlet	0.750

4 Evacuation Details

4.1 Declaration Status

During a briefing, consideration should be given to declaring a state of local emergency under Section 68 of the Civil Defence Emergency Management Act 2002. This declaration will provide legal status to the evacuation, legal protection to workers and authority to the Local Controller to direct and coordinate the response.

The process for declaring a state of local emergency is described in the Manawatū-Whanganui Civil Defence Emergency Management Group Plan 2016-2021 section 5.10 Liaise with the Group Controller during declaration considerations.

4.2 Activation of Emergency Operations and Civil Defence Centres – Manawatū District Council

The local Emergency Operations Centre will be fully activated to plan and support the responses in the field including:

- Evacuation of Tangimoana – planning, monitoring and supporting,
- Operation of Civil Defence Centres,
- Logistics support, e.g. staffing, sourcing accommodation, transport, catering supplies,
- Liaison with responding and supporting agencies ensuring integrated planning,
- Site security, traffic control and cordons,
- Public Information Management,
- Making arrangements for domestic pets and/or livestock
- Communications management.

The Civil Defence Centre at Rongotea will also be activated with sufficient staff to undertake the following functions:

- Registration of evacuees,
- Allocation of temporary accommodation,
- Provision of information about the event and the response,
- Provision of communications for evacuees to make arrangements,
- Provision of refreshments for evacuees and workers.

The Tangimoana Civil Defence Centre will also be staffed, however this is the local Fire Station and will only remain operational whilst evacuations are being initiated. Information should be held at the Fire Station sufficient to answer any enquiries and to provide a communications link between the local community and the MDC EOC if required.

4.3 Evacuation Zone

The evacuation zone has been determined by the level of ponding expected following a breach or over-topping of the stopbanks, combined with a logical boundary that is easy to secure. The point of road closure once the mandatory evacuation is in place is adjacent to 1964 Tangimoana Road and the entrance to the Tangimoana Fire Station.

The location of the evacuation zone was influenced by the location of a radio communications interception facility that is located on Government Land at Tangimoana Station. Access to this facility should remain open whenever possible.



Figure 2: Evacuation Zone and Road Block Location

4.4 Notification and Evacuation of Residents

Residents will be notified of a mandatory evacuation of Tangimoana with as much lead time as possible. Evacuations should take place early rather than late, and in daylight

rather than darkness. Residents may choose to evacuate voluntarily prior to the deadline for mandatory evacuation and support for these people may be available, however systems and arrangements may not be fully in place to assist immediately. Residents who evacuate within a reasonable timeframe should not be disadvantaged.

Consideration should be given to the use of the Emergency Mobile Alert system to alert residents of the need to evacuate should it be determined that there is risk to life. This can be done through discussions with the Horizons Incident Controller or Group Controller (whichever position is in place for the response).

Staff of the Tangimoana Volunteer Fire Brigade under the command of the Chief Fire Officer will assist the Local Controller by undertaking door-to-door notification to residents. The following information should be shared:

- Information about why the evacuation is required
- The deadline for evacuation
- The location of the Civil Defence Centre that evacuees should report to
- Transport issues (if any)
- Number of people evacuating from the property
- Information about pets that may be evacuated
- Medical concerns
- Other support required for evacuees

It is estimated that initial notification will take 60-90 minutes. A second (faster) notification should take place as the deadline draws near.

Information collected by staff undertaking notification should be shared with the Planning & Intelligence team at the MDC EOC.

4.5 Traffic Cordons

As notification to residents gets underway, a cordon should be placed at the intersection of Tangimoana Road and Rosina Road. The purpose of this cordon is to advise people of the impending evacuation and the timeframes for exclusion. People should not be stopped from entering the township while evacuations are underway but should be stopped as overtopping (or breach) becomes inevitable.

Once the deadline for evacuation has been reached, a 'road closed ahead' sign should be placed at this location. This location does not need to be staffed once security is in place.

4.6 Scene Security

The New Zealand Police (Police) are responsible for the security of an evacuated area. The Police may require support for this function, however access to Tangimoana is somewhat restricted anyway with a single road into the area.

To support the security function, the MDC Controller should initiate occasional reconnaissance flights over Tangimoana to look for anyone that should not be in the evacuated area. In addition, local helicopter operators should be advised that the area has been evacuated and they should report any observations of unusual activity in the area.

4.7 Lifeline Utilities

MDC Operations Manager will liaise with the electricity distribution company to consider isolating electricity to the township. Even though residents will be encouraged to isolate electricity before they evacuate, blanket isolation may minimise the risk of fire or accidental electrocution during impact assessments.

4.8 Considerations for Return of Residents

The mandatory evacuation will remain in force until such time as the MDC Controller is satisfied that it is safe for open access to the area. An assessment will involve checking that:

- Water has been largely drained from the township.
- Inspection teams have visited each property to assess initial impacts.
- Dead livestock (if any) have been removed from the township.
- Potential health risks have been assessed, including septic tanks.
- Power company representatives have assessed each property to determine whether the electricity can be turned on.

When satisfied, the Local Controller should notify evacuees that the evacuation is no longer required and that residents are encouraged to return to begin clean-up activities.

It is not intended that this Plan provide for recovery activities. A clean-up and recovery plan should be developed to assist residents in this process.

5 Waterline and IVR Notification

The Horizons River Height Information system provides for automated dial out of alarms (IVR notification) and for manual dialing in to a river or rainfall station for recent information (Waterline).

Waterline can be accessed as follows:

Table 5: IVR Notification Details

First dial... 0508 435 663	Dial 3 for the Rangitikei catchment, then...	Dial 1 for river height, then dial, then...	00	Rangitikei River @ Mangaweka
			01	Rangitikei River @ Pukeokahu
			02	Rangitikei River @ Onepuhi
			03	Hautapu River @ Alabasters
			04	Moawhango River @ Moawhango
			05	Tutaenui Stream @ Hammond Street
			06	Rangitikei River @ McKelvies
	Dial 3 for rainfall, then dial, then...	or	00	Erewhon Station
			01	Upper Kawhatau
			02	Alabasters
			03	Moawhango
			04	Zohs Road
			05	Pakihikura airstrip
			06	Tututotara
		07	Forest Road	

			08	Ngamatea
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6 Resource Needs

6.1 Manawatū District Council

Table 6: Resource Requirements – Manawatū District Council

Resource	Source	Location required	Time to deploy	Time on site
Traffic control staff		Tangimoana Rd / Rosina Rd		
Traffic control barriers + signs		Tangimoana Rd / Rosina Rd		
Traffic control comms		Tangimoana Rd / Rosina Rd		
Civil Defence (Welfare) Centre access		Te Kawau Event Centre, Rongotea		
Welfare Centre staff		Te Kawau Event Centre, Rongotea		
Welfare Centre kit and comms		Te Kawau Event Centre, Rongotea		
Welfare Centre access		Tangimoana Fire Station		
Welfare Centre staff		Tangimoana Fire Station		
Welfare Centre kit and comms		Tangimoana Fire Station		
Accommodation for evacuees				
Accommodation for pets				

6.2 Horizons Regional Council

Table 7: Resource Requirements – Horizons Regional Council

Resource	Source	Location required	Time to deploy	Time on site
15-20 Ton Digger for mechanical breaching				
Field observers				

7 Information Flow

The following agencies and staff will be kept informed about changes and progress on this Plan:

Agency	Function performed by agency
Manawatū Local Controller (with EMO support)	local response co-ordination
Manawatū District Council EMO	Local warnings and local welfare response
New Zealand Police LO	Security, traffic control and evacuation
FENZ LO	Evacuation notification
Horizons Incident Controller	Flood Management
Horizons Emergency Management Duty Officer (EMDO)	Horizons initial response
Horizons Hydrology Duty Officer	Hydrology Data
Horizons River Management Duty Officer	Advice on flood potential & field operations to Horizons IC
CDEM Group Controller	Response co-ordination during declared emergencies

8 Communications Plan

The passing of any urgent warning is to be by voice communication. Fax, e-mail, voice message, SMS or any other method may be used as a 'heads-up' to the warning however the message will not be considered to have been passed until actual voice contact is made.

The HRC Manager Emergency Management Office will ensure that an appropriate means of communication is available for the co-ordination of this Plan. During an activation of the Group ECC, the EOC Operations Manager will ensure that such means, and any other means introduced on the day, operate effectively for their intended purpose.

Liaison with the media will be undertaken in a coordinated manner. Public Information Management staff from HRC and MDC will ensure that messages provided to the public are consistent. Statements to the media will focus on core business of council along the lines identified in Table 8 below:

Table 8: Communications Responsibilities

Horizons Council	Regional	<ul style="list-style-type: none"> ▪ Activities of Horizons EOC and Group ECC (if required) ▪ River heights ▪ Flood monitoring, modelling and warnings ▪ Flood protection/prevention works ▪ IVR river height warning system ▪ Coordination of response (if multiple districts affected)
Manawatū Council	District	<ul style="list-style-type: none"> ▪ Activities of Manawatū EOC ▪ Evacuations ▪ Road closures ▪ Local CDEM coordination activities ▪ Public actions to be taken ▪ Emergency welfare arrangements

Key messages may also include:

- Who is responsible for the evacuation plan
- Who is in charge during the evacuation
- How to get more information
- Location and function of Civil Defence Centres
- Evacuation deadline
- Messages of assurance

8.1 Radio Networks

The following Civil Defence radio networks are in operation in the Manawatū area (Figure 3) and Horizons CDEM Group area (Figure 4).

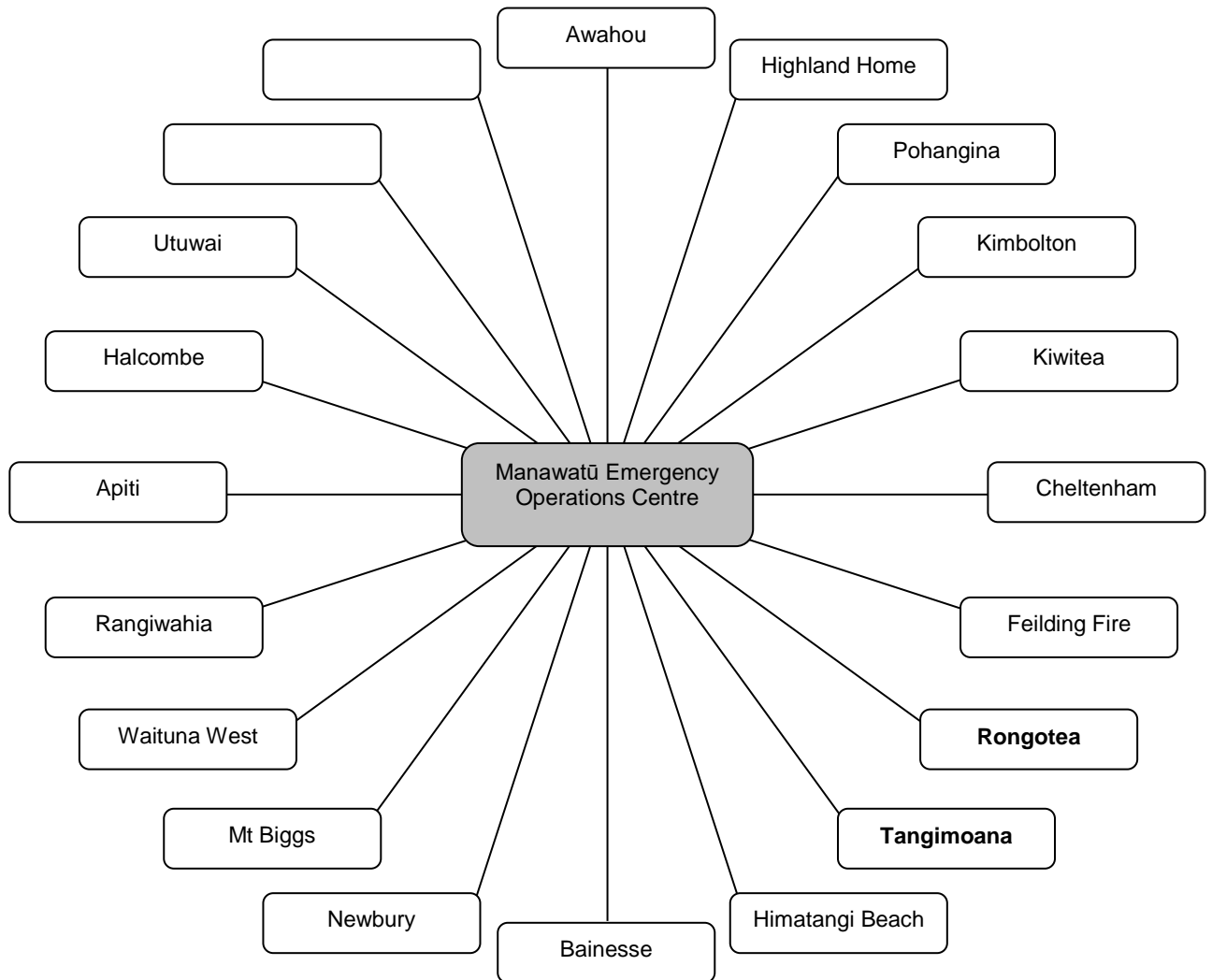
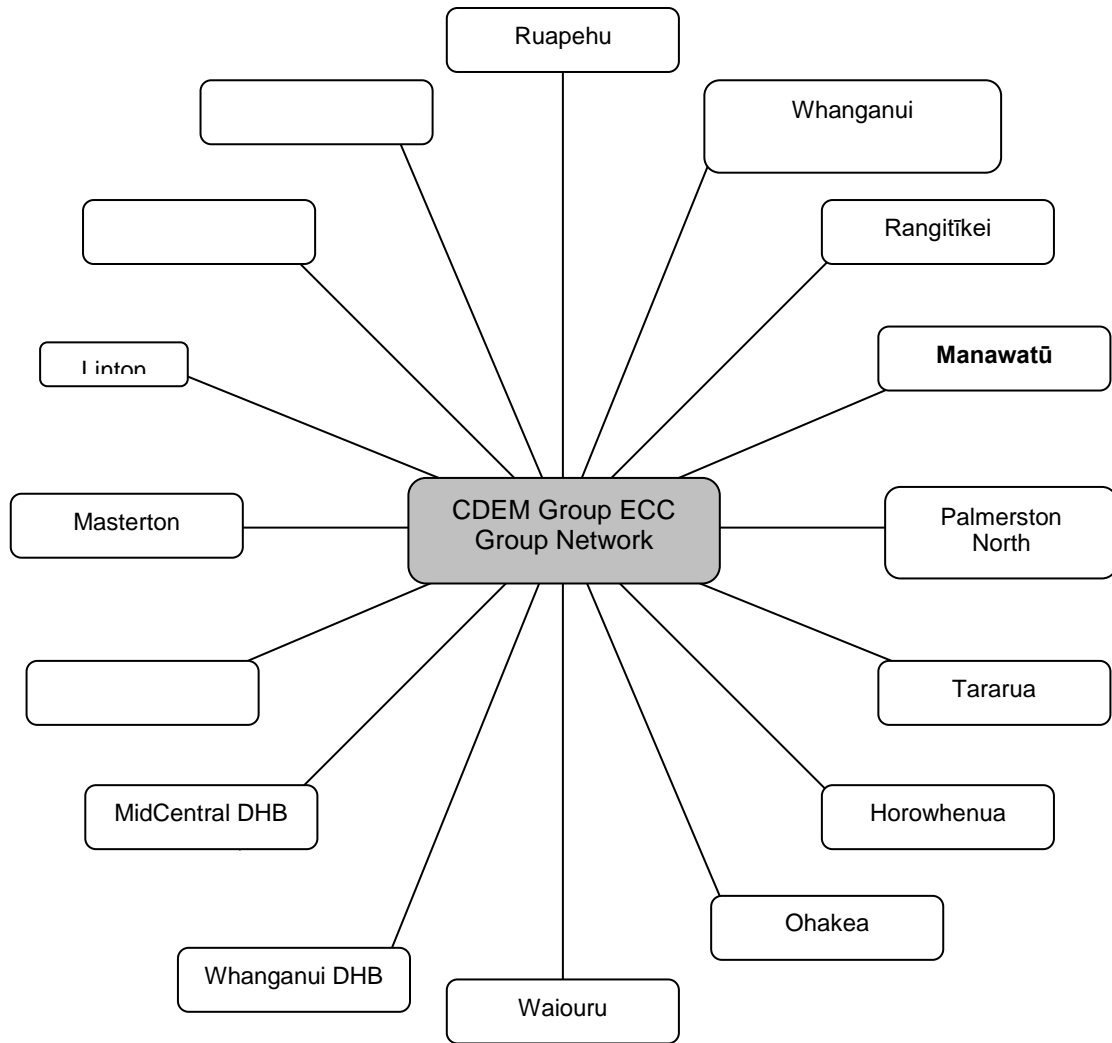


Figure 3: Local Radio Network

Figure 4: Group Radio Network



Horizons and Manawatū District Council also operate radio networks for the continuation of council business. There is a base set at the Marton depot and radios in each Horizons vehicle. During an event, it's likely that the Marton base station wouldn't be staffed as all team members would be in the field at various locations across the Northern area.

9 Health and Safety

Staff deployed into the field face the greatest Health and Safety risks in this scenario. The council or contractors engaging staff in the field remain responsible for their Health and Safety. Councils' Health and Safety documents for Business as Usual should address many of the issues staff will face. Communications between the employing EOC and field staff should be undertaken frequently to check the safety of staff.

10 Distribution

Controlled Copies

Horizons Emergency Response Manual - Part 3

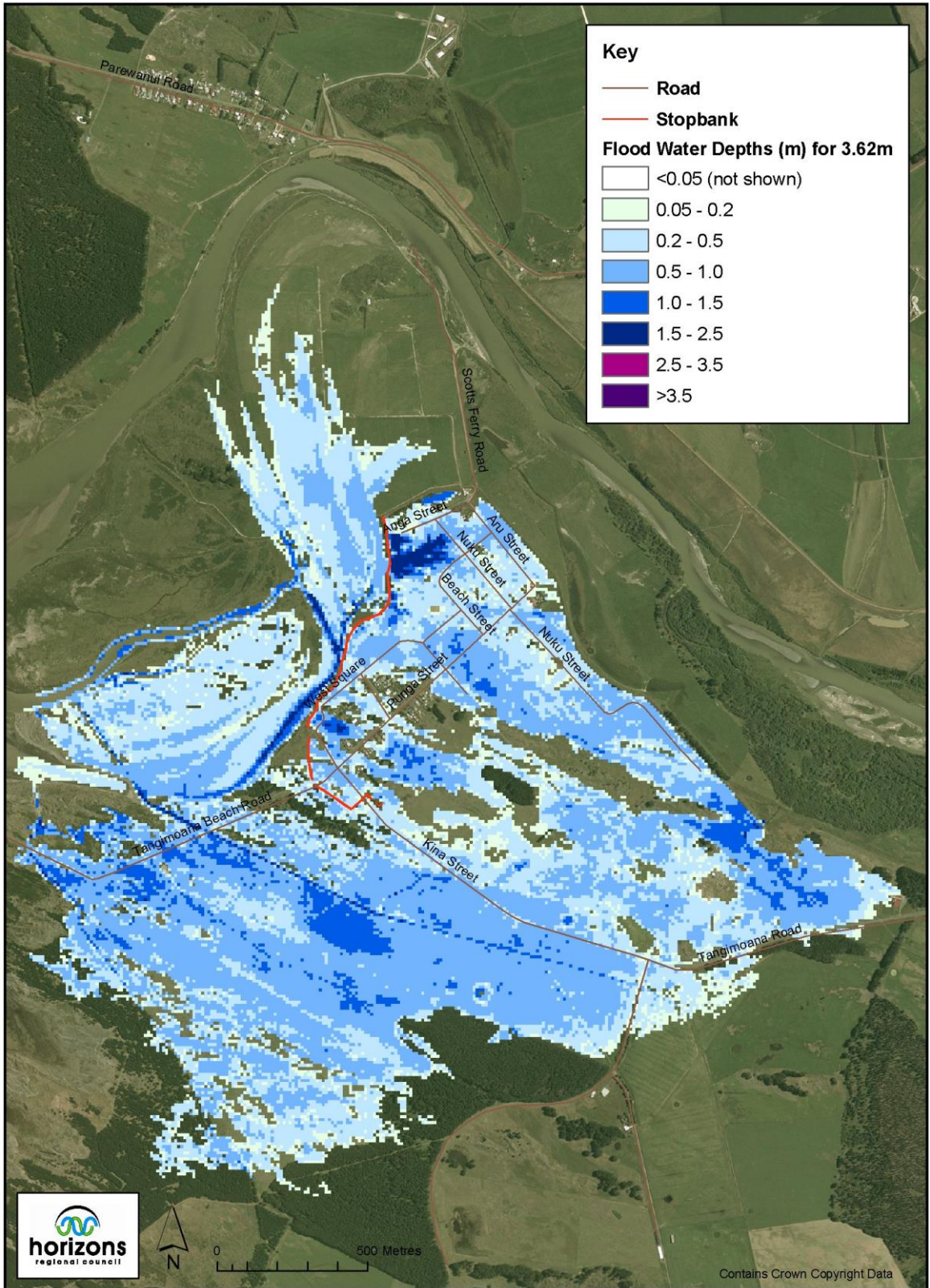
As per ERM distribution list

Distribution to MDC

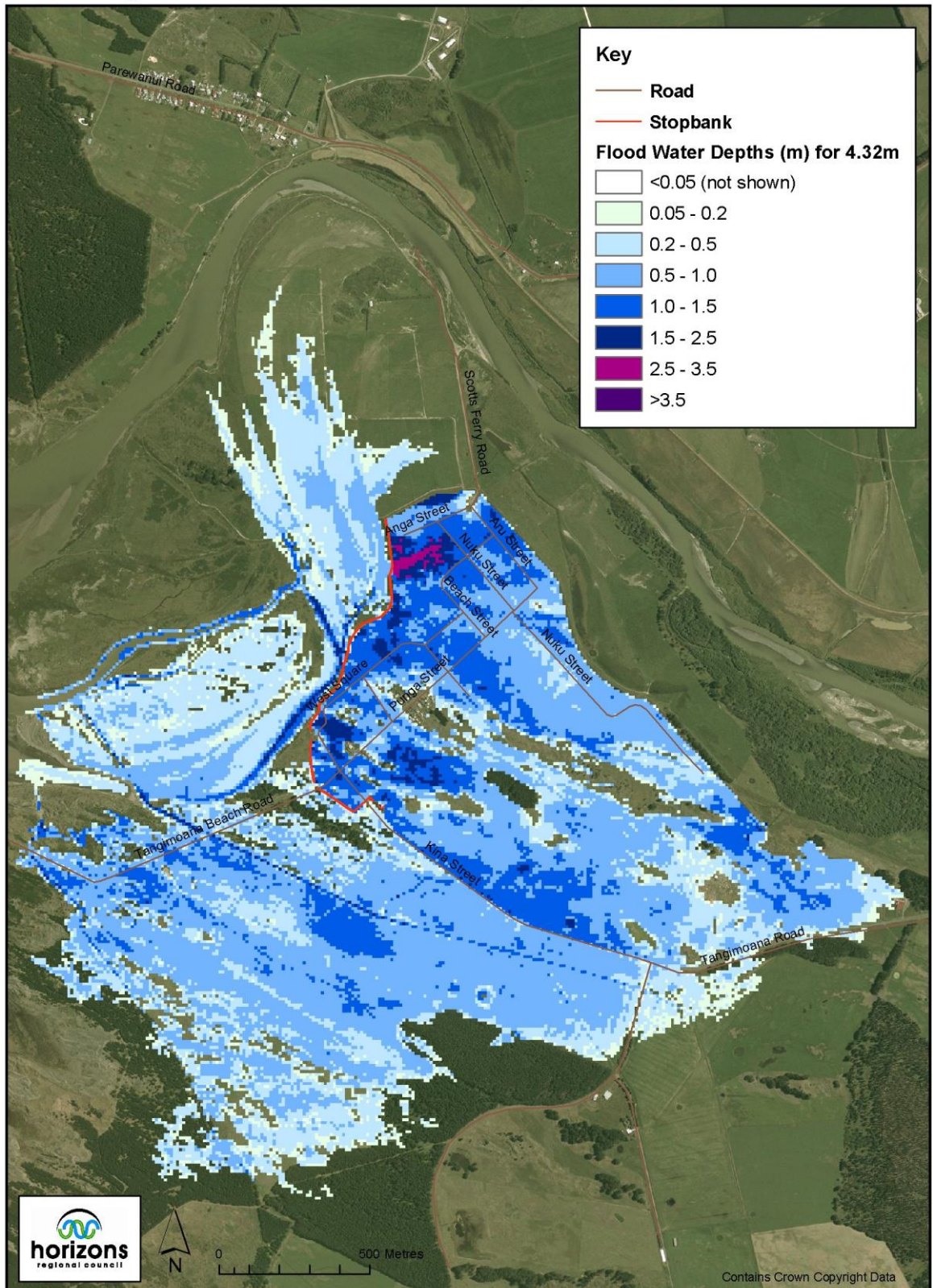
An electronic copy is to be sent to the MDC Emergency Management Officer who will arrange internal and support agency distribution.

Appendix 1 - Maps of Floodable Areas

Tangimoana Flood Model - Revision April 2010 Depth 3.62m Pond



Tangimoana Flood Model - Revision April 2010 Depth 4.32m Pond





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24 hour freephone 0508 800 800
fax 06 952 2929 | email help@horizons.govt.nz
Private Bag 11025, Manawatū Mail Centre, Palmerston North 4442