



# Emergency Flood Plan

## Ōroua Flood Action Plan

Version 3.0  
May 2023

## DOCUMENT REVISION HISTORY

Version	Date	Issued by	Reason for review
1.0	20 October 2015	Ian Lowe	Initial release
2.0	November 2019	Ross Brannigan	Major Review – updated to incorporate changes to plan resulting from stopbank upgrades around Awahuri reach
3.0	June 2023	Jeanie Ferry/David Rei Miller	Major Review

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# 1 Summary

This Flood Response Plan has been developed in order to coordinate responses to a potential flood event on the Ōroua River and/or the Kiwitea Stream.

There are two components to this Plan:

- a) Monitoring and responses required in respect of Ōroua River stopbanks.
- b) Ongoing monitoring and responses required in respect of critical flood defences on the Kiwitea Stream and at Timona Park.

Whilst the Plan highlights the actions that both Horizons Regional Council (Horizons or HRC) and the Manawatū District Council (MDC) will take in regards to monitoring and responding to an event on the respective waterways above, it must however be regarded as an 'aide memoire' and not a rigid process due to the changing dynamics that any one particular flood event may present.

## 2 Background - Ōroua Flood Protection Works

Constructed in the early 1960s, the Ōroua River flood protection works form part of the Lower Manawatū Scheme (LMS) and protect low-lying farmland, as well as parts of Feilding, from flooding.

The flood protection works on the Ōroua consist of 50 km of stopbanking as well as the Kopane and Rangiotu Spillways. These works are designed to provide protection from a 1% Annual Exceedance Probability (AEP) flood event<sup>1</sup>.

## 3 Description of the Risk

The potential risks covered by this Flood Response Plan, are those of a significant flood in the Ōroua River occurring before completion of the upgrade programme and/or a large flood event occurring on the Kiwitea Stream above Feilding, at any time in the future.

There are number of potential problems that could arise during such flood events. The main ones being:

- The overtopping of stopbanks that are not yet built up to the 1% AEP design height;
- The structural failure of a stopbank that has not yet been upgraded;
- Water spilling out of channel in areas where stopbanks have not yet been constructed; and
- Flooding and erosion risks from the Kiwitea Stream.

Until all programmed upgrades are complete, it will be necessary to monitor sections of the rivers during a flood event. This monitoring will enable staff to either undertake some judicious remedial work, or to issue a warning of impending overtopping or failure of stopbanks.

All parts of the stopbanking that are yet to be upgraded are at risk of overtopping or failure during a 1% AEP flood event. The reaches in the areas of the upgrade works

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<sup>1</sup> This is equivalent to a 1 in 100 year event.

currently offer a varying standard of protection, meaning that they are likely to be overtopped by floods of differing magnitudes.

## 4 Left Bank Upstream of Awahuri

Although the upgrade programme of previous years is largely complete, as at the time of this revision (May 2023), there is a gap at Te Arakura that is in the process of being addressed.

Due to the absence of stopbanks in this reach there is potential for a breach leading to rapid flooding.

## 5 Ongoing Risks

Even after the final stages of construction works have been completed, there will be an ongoing requirement to monitor both erosion and flood overflow risks at some critical sites.

### 5.1 Timona Park – Flooding Risk

Even after completion of all upgrade works, Timona Park in Feilding, will continue to be at risk of flooding from the Ōroua River. There are no houses at risk, however, there are frequently camper vans parked alongside the internal road. Closing the park during a flood event is the responsibility of Manawatū District Council (MDC). It is important that MDC continue to receive flood warnings via the IVR system.



Table 1: Action Table

Site	Manawatū District Council Plan of Action and Critical Elements		Horizons Regional Council Plan of Action and Critical Elements	
<b>6M ALARM LEVEL RECEIVED FROM KOPANE BRIDGE GAUGE</b>				
<b>KOPANE BRIDGE</b>			Upon receipt of a 6m IVR notification on the Ōroua River at the Kopane Bridge gauge the <b>River Management Duty Officer</b> will:	<ul style="list-style-type: none"> <li>• Monitor weather forecast for further rain.</li> <li>• Liaise with the Hydro DO to determine further potential for flooding and the Ōroua River reaching 6.9m at Kopane Bridge.</li> <li>• Contact Operations Design Team staff to ascertain potential for issues to occur.</li> <li>• Advise Horizons EMDO of the situation and of the potential for issues to occur.</li> <li>• On advice from the Operations Design Team, notify Operations staff of potential need to mobilise in accordance with this Plan.</li> </ul>
	<b>The Emergency Management Officer will:</b>	<ul style="list-style-type: none"> <li>• Receive heads up warning from Horizons EMDO of potential for issues to occur.</li> <li>• Maintain a watching brief and remain in contact with Horizons EMDO.</li> </ul>	<b>The Emergency Management Duty Officer (EMDO) will:</b>	<ul style="list-style-type: none"> <li>• Receive situation update from the River Management Duty Officer.</li> <li>• Advise Manawatū District Council Emergency Management Officer (MDCEMO) of potential issues.</li> <li>• Maintain an open chain of communications with the MDCEMO.</li> </ul>
<b>6M ALARM RECEIVED FROM KOPANE BRIDGE GAUGE AND EXPECTED TO REACH 6.9M</b>				
<b>HOIHERE ROAD STOPLOG GATES</b>			<b>The River Management Duty Officer will:</b>	<ul style="list-style-type: none"> <li>• Advise the EMDO of the expectation of the 6.9m level be attained.</li> <li>• Deploy Operations Group staff to sites as identified by the Operations Design Team to monitor continuously and report back on the situation.</li> <li>• Arrange for the deployment of resources for localised stopbank raising or strengthening (refer resource list) if required.</li> </ul>
	<b>The Emergency Management Officer will:</b>	<ul style="list-style-type: none"> <li>• Activate the EOC at a level in accordance with local Standard Operating Procedures to monitor responses and liaise with Horizons and Emergency Services.</li> <li>• Advise a Local Controller.</li> <li>• Advise the Emergency Management Committee.</li> <li>• Advise the PIM.</li> <li>• Advise Council Staff of likely requirements for closure of Timona Park and Hoihere Road.</li> </ul> <p><b>Note:</b> Once Horizons EOC goes to Level 3, a full activation of the MDC EOC should occur.</p>	<b>The Emergency Management Duty Officer will:</b>	<ul style="list-style-type: none"> <li>• Advise Horizons Incident Controller of the issue and of the actions taken to date.</li> <li>• Activate the EOC at a level conducive to support the Operation – likely Level 2 as per Emergency Response Manual.</li> <li>• Continue to liaise with Horizons Incident Controller to determine future requirements – be prepared to activate EOC to Level 3 if required.</li> <li>• On request of the Incident Controller, activate the EOC to Level 3 – procedures in accordance with Emergency Response Manual – to include IT support to EOC.</li> <li>• Continue to update the MDCEMO of the developing situation.</li> </ul>

Site	Manawatū District Council Plan of Action and Critical Elements		Horizons Regional Council Plan of Action and Critical Elements	
	The Emergency Management Officer will:	<ul style="list-style-type: none"> <li>Maintain actions as above.</li> <li>EOC operations as per MDC EOC Standard Operating Procedures.</li> </ul>	The River Management Duty Officer will:	<ul style="list-style-type: none"> <li>Continue with actions above as relevant.</li> <li>Liaise with Horizons Incident Controller for further direction.</li> </ul>
			The Emergency Management Duty Officer will:	<ul style="list-style-type: none"> <li>Maintain actions as above.</li> <li>EOC operations as per Emergency Management Response Manual.</li> </ul>
RIGHT BANK ŌROUA RIVER UPSTREAM OF FEILDING WASTE WATER TREATMENT PLAN – MAP C	The Emergency Management Officer will:	<ul style="list-style-type: none"> <li>Maintain actions as above.</li> <li>EOC operations as per MDC EOC Standard Operating Procedures.</li> </ul>	The River Management Duty Officer will:	<ul style="list-style-type: none"> <li>Continue with actions above as relevant.</li> <li>Liaise with Horizons Incident Controller for further direction.</li> </ul>
			The Emergency Management Duty Officer will:	<ul style="list-style-type: none"> <li>Continue with actions above as relevant.</li> <li>Liaise with Horizons Incident Controller for further direction.</li> </ul>
<b>6.9M ALARM LEVEL RECEIVED FROM KOPANE BRIDGE GAUGE</b>				
<b>3M ALARM (STRATHSPEY FARM) RECEIVED AND EXPECTED TO REACH 4.0M</b>				
KIWITEA STREAM – FEILDING EROSION – MAP F			The River Management Duty Officer will:	<ul style="list-style-type: none"> <li>Deploy staff if available to monitor.</li> </ul>



## 6 Communications Plan

It is important that the tried and tested standard day-to-day methods of communications be used between the Emergency Operations Centres of Horizons and the Manawatū District Council to ensure the current level of operational ability between the two Councils.

In the event where those standard methods are unavailable communications will be via the respective Council VHF radio networks.

## 7 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 should address many of the issues staff will face. Communications between the EOC and field staff should be undertaken frequently to check the safety of staff. Consider activating the Safety function.

E-Road should be used to monitor staff locations.

## 8 Distribution

### Controlled Copies

Horizons Emergency Response Manual - Part 3

As per ERM distribution list

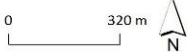
### Distribution to MDC

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

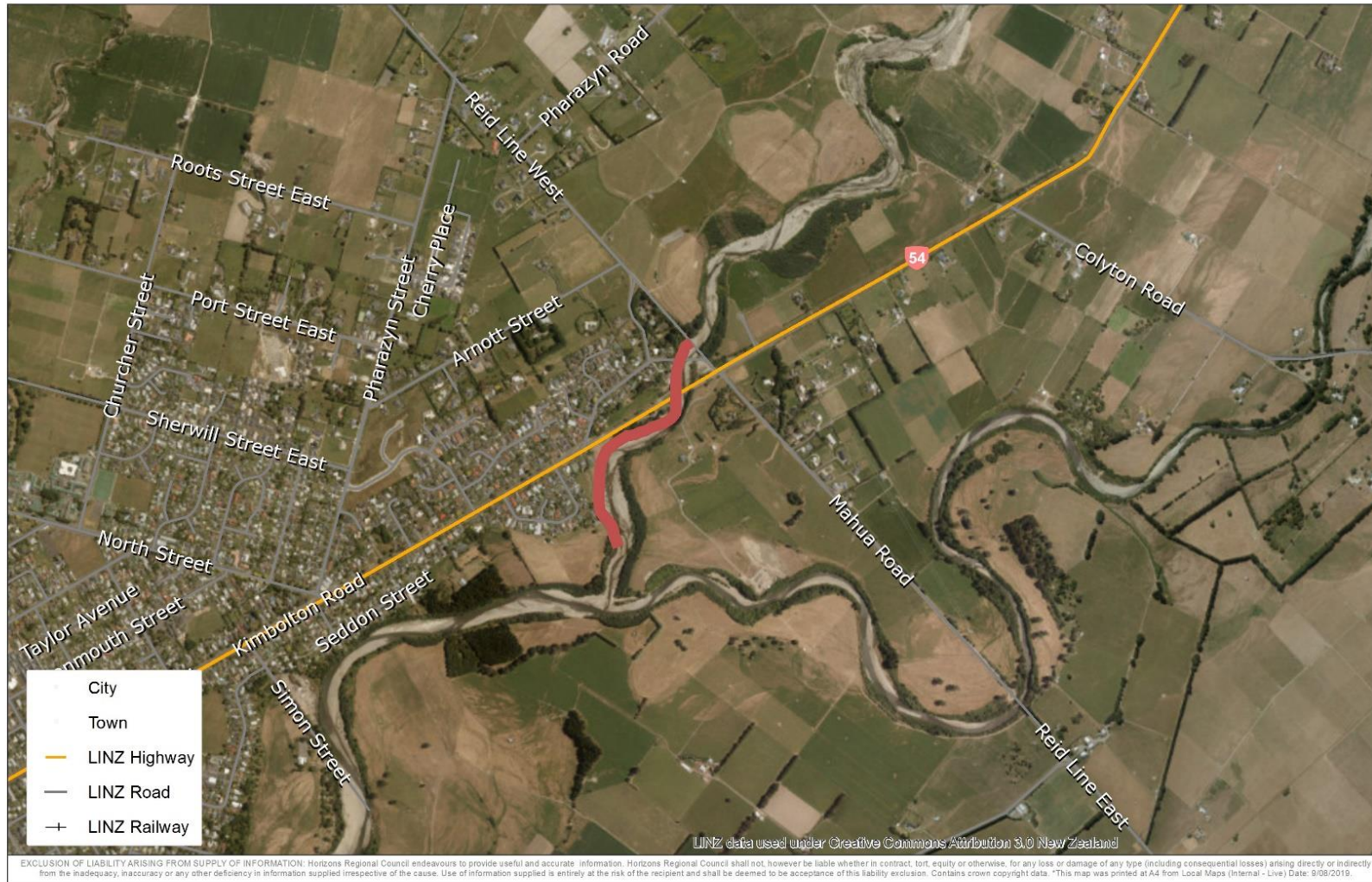
# Appendix 1 - Maps



Map A -Oroua River - Awahuri Reach









# horizons

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