

Report 13.91
Date 19 March 2013
File N/04/09/01

Committee Hutt Valley Floodplain Management Subcommittee
Author Sharyn Westlake, Senior Engineer, Strategy and
Advisory Specialist

Dissemination of Flood Hazard Information – Lessons Learnt from Mangaroa and Wainuiomata Rivers

1. Purpose

To advise the Subcommittee of Greater Wellington Regional Council's policies relating to the dissemination of flood hazard information, and of lessons learnt from the dissemination of flood hazard information for the Mangaroa and Wainuiomata Rivers.

2. The decision-making process and significance

The matter requiring decision in this report has been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act).

2.1 Significance of the decision

Officers have considered the significance of the matter, taking the Council's significance policy and decision-making guidelines into account. Officers recommend that the matter be considered to have low significance.

Officers do not consider that a formal record outlining consideration of the decision-making process is required in this instance.

In making this assessment Officers are not seeking to assess the importance placed on the issue by specific individuals, groups or agencies in the community. Officers acknowledge that the matters referenced in this report may have a high degree of importance to affected or interested parties.

3. Background

3.1 Dissemination of Flood Hazard Information

On 10 November 2006 a paper was presented to Greater Wellington Regional Council's (GWRC) Landcare Committee setting out GWRC policies relating to

the assessment of flood hazard information and dissemination to the local territorial authorities involved, their communities and directly affected landowners (Report 06.664 in **Attachment 1**).

The 2006 paper refers to the 1995 Regional Policy Statement, which “provides the Flood Protection Department with both a duty to investigate flood hazards and to make the resulting flood hazard information available to the people and communities of the region”. These imperatives remain within the proposed Regional Policy Statement (pRPS) (which is expected to be operative next year) and the relevant policies in the pRPS are given in Section 4 below.

Flood risk is an assessment of the flood hazard combined with the consequences resulting from that hazard. Flood hazard assessments have been carried out for the following floodplains in the Western part of the region:

- Hutt River.
- Waiwhetu Stream.
- Pinehaven Stream.
- Waikanae River.
- Otaki River.
- Waitohu Stream.
- Mangaone Stream.
- Wainuiomata River.
- Mangaroa River.
- Porirua Stream.

For some rivers (Hutt, Waikanae, Otaki), the flood hazard assessments have been carried out as part of the Flood Protection Department’s Floodplain Management Planning (FMP) process¹. For other rivers, such as the Mangaroa and Wainuiomata, flood hazard assessments were carried out primarily to identify hazard areas so that these could be taken into account for future development. Consequently, these were not part of an FMP, and generally did not involve a wide consultation process.

This report refines the method for the dissemination of flood hazard information set out in Report 06.664, utilising the lessons learnt from the release of flood hazard information for the Mangaroa and Wainuiomata Rivers.

4. Mangaroa and Wainuiomata Flood Hazard Dissemination

4.1 Mangaroa River Flood Hazard Information

In June 2006, the Mangaroa River Flood Hazard Assessment was completed and the results of the assessment forwarded to Upper Hutt City Council (UHCC), followed by discussions between officers regarding the use of the

¹ Floodplain Management Planning enables the Flood Protection Department to work with other key decision-makers and the community within a river catchment to identify and agree policies and options for sustainable flood risk management. It generally involves the following steps:

- Investigating and understanding the probability and likely extent of flooding and the economic, social, cultural and environmental values within a defined catchment;
- Identifying, evaluating and selecting a range of appropriate management options to reduce the probability and impact of flood risk; and
- Implementing a preferred option/s in a manner that ensures a co-ordinated response by relevant agencies and/or individuals.

information. GWRC intended that this information be used for planning purposes, to ensure that any future development in the valley takes account of flood and erosion hazards. UHCC used this information to inform applications for building and resource consent, and disclosed it in LIM reports.

Public meetings were held in September and November 2008 to discuss the hazard information. A key outcome from these meetings was that residents wanted the flood and erosion hazard to be put into the Upper Hutt City Council District Plan.

In January 2010, all property owners with properties affected by flood and erosion hazard from the Mangaroa River were sent hazard maps, and a design river channel for the Mangaroa River specific to their property. This information was drawn up for planning purposes, to ensure that the development of the Mangaroa and Whitemans Valleys takes into account the flood and erosion hazards of the Mangaroa River, and was used to inform Plan Change 15 to the Upper Hutt City Council District Plan (subject to the consultation process). (Upper Hutt City Council District Plan Change 15 - Flood and Erosion Hazard Areas has been notified, and submissions closed on 9 November 2012.)

4.2 Wainuiomata River Flood Hazard Information

The Wainuiomata River flood and erosion hazard for the main channel of the Wainuiomata River from upstream of the township (just above the confluence with the Wainuiomata Stream) to the mouth was modelled in 2000. The information has been used by GWRC for advice on: avoiding the flood and erosion hazard for new development; suitable house sites for subdivided properties; and proposed river crossings with regard to the hazard.

In 2011 the Wainuiomata River flood hazard was updated to take into account: the further 13 years of hydrological data (since 1998); the latest LiDAR aerial survey information; and flood data from landowners, to get refined and recalibrated flood extents and depths.

The draft updated hazard information was sent to all people within the flood and erosion hazard area with an invitation to a drop-in session held in February 2012. This meeting was followed by further discussions with individuals and specific investigations of flood hazard, including site survey. Further discussions were also held with Hutt City Council officers, and the resident's engineer engaged by them to undertake site-specific assessments.

Further e-mail feedback suggesting additional changes to the draft Information Sheets and the suggested Hutt City Council LIM statement was also received.

Following the public meeting, and an analysis of comments received and specific feedback, the second revision of the draft Flood Hazard Information Sheets and suggested LIM statement were mailed out to attendees of the public meeting, the resident's engineer and Hutt City Council (HCC), with an opportunity to provide further feedback before May 2012. Additional feedback

was also received from, and discussions held with, individuals regarding the erosion hazard lines.

Following finalisation of the flood and erosion hazard information, changes were made to the flood hazard information sheets, and a method of including further information as it comes available agreed with HCC.

In September 2012, the new hazard information was published on information data sheets, mailed out to all affected landowners, and made available for HCC to include on LIMs.

5. Proposed Regional Policy Statement

5.1 Policies

In the proposed Regional Policy Statement (pRPS), identifying, assessing and informing communities about flood risk comes within the *Natural Hazards* context primarily under Policy 28, which is:

Policy 28: Avoiding subdivision and development in areas at high risk from natural hazards – district plans

District plans shall:

(a) identify areas at high risk from natural hazards; and

(b) include policies and rules to avoid subdivision and development in those areas.

Further policies, related to minimising the risks and consequences of natural hazards (Policy 50) and minimising adverse effects of hazard mitigation measures (Policy 51), ensure that appropriate matters for planning and decision making are considered and that the relevant information and advice is provided for this.

5.2 Methods

Methods are then provided to implement the Regional Plan Objectives and Policies. Identifying, assessing and informing communities about flood risk come under:

Method 22: Information about areas at high risk from natural hazards

Prepare and disseminate information about how to identify areas at high risk from natural hazards, as relevant to the development of hazard management strategies to guide decision-making.

5.3 Assessment and Dissemination of Information

The pRPS provides the Objectives, Methods and Policies for the assessment of flood hazards, and the dissemination of flood hazard information. This is consistent with fulfilling the natural hazards objectives of the pRPS, regarding reducing the risk and preparing for the consequences of natural hazards comes under *Objectives 18, 19 and 20*, as follows:

Objective 18: The risks and consequences to people, communities, their businesses, property and infrastructure from natural hazards and climate change effects are reduced.

Objective 19: Hazard mitigation measures, structural works and other activities do not increase the risk and consequences of natural hazard events.

Objective 20: Communities are more resilient to natural hazards, including the impacts of climate change, and people are better prepared for the consequences of natural hazard events.

6. Reflections on the Process of Disseminating Flood Hazard Information for Wainuiomata and Mangaroa Rivers

As noted in Section 3.1, dissemination of the flood hazard information for the Wainuiomata and Mangaroa Rivers was not carried out as part of an FMP, and generally the flood hazard information for these watercourses was provided to the respective City Councils.

This information was then used by the City Councils on informing new development, and also placed on LIMS. Note that this process was the GWRC policy, as per Report 06.664.

Feedback about this process for Wainuiomata and Mangaroa Rivers is that this dissemination process had shortcomings. Some of these are highlighted below.

6.1 Community Feedback

- If a property is identified as having a flood hazard through flood modelling, then the respective owners want to know about this before anyone else. For example, when trying to sell property, people don't like finding out from a potential buyer that they have a hazard noted on the LIM – especially when they are unaware of this themselves. Equally the owners do not want to read such information in the newspaper.
- Even though property owners may know that their property may be affected by a potential hazard (i.e. because it has been flooded), they don't necessarily want the hazard information available so others will know about it.
- There is an expectation that the modelling is very precise and has only a minimal margin of error. An industry best practice is the minimum expectation.
- People consider that having a hazard noted on the LIM will lower the property value.
- Opinions vary on the best way to show the flood hazard information – whether this should be standardised for all hazard maps, or detailed indicating water depth.

6.2 Council Officer Feedback

This feedback is based on a discussion between officers of GWRC, Hutt City Council and Upper Hutt City Council on 7 November 2012².

Points were raised during this discussion relating to the hazard information and dissemination of this information as follows:

Hydraulic modelling

- Version control for the flood hazard information is important to make sure Councils are using the same, and correct, information.
- The hydraulic model information should be peer reviewed before release. The Mangaroa River information was changed after initial release which caused confusion. (n.b. Flood Protection Department policy has changed and now includes review of all hydraulic models, by internal or external appointed party, before information is released.)

Communication and Release of Information

- How the flood spread is shown on the data sheets needs to be consistent between different flood hazard studies.
- The community needs to be given the opportunity to comment on the draft hazard maps so they can have any information they hold taken into account. This can also narrow down potential issues before a Plan Change, if this is what the information is to be used for.
- Release of the information needs to be four-fold: at Officer level, to Councillors, to landowners and affected parties, and to the wider community.
- Need to assume the community has no knowledge about the hazard or flood risk, so the information needs to be released as if from ‘scratch’.
- Face-to face meetings are required, where appropriate, and information needs to be advertised in the local paper.
- Drop-in sessions, with presentations, have worked well. These are best if the opportunity is given for one-to-one discussion rather than longer question-times, as these may be dominated by a few and not give everyone the opportunity to contribute.
- The ‘GP surgery’ approach was suggested, where an officer was available in the community for say one day a fortnight so people can drop in and discuss issues. The officer could be working from the local library for example.

² Greater Wellington Regional Council's Flood Protection Department: Graeme Campbell (Manager, Flood Protection); Jan van der Vliet (Team Leader, Investigations, Strategy and Planning); Sharyn Westlake (Senior Engineer, Strategy and Advisory Specialist); Matt Gardner (Engineer, Modelling)

Hutt City Council: Helen Oram (Divisional Manager Environmental Consents); Sarah Fleet (Eco Design Advisor & LIM Supervisor)

Upper Hutt City Council: Richard Harbord (Director, Planning and Regulatory Services)

- Joint Council letters have worked well, and having people in Councils informed and up-to-date regarding who to talk to about which watercourse – as flood hazard mapping may be being carried out over a number of watercourses at any one time.
- Informed Councillors who are able to respond to community questions has been valuable in some cases as it shows a united approach.
- Informed Building Officers are required who know what the hazard information means and how to use it (with regard to building and land use consents).
- There is a risk with delaying putting flood hazard information in District Plans as the default standard of a 50 year return period event may be used for recommended building floor levels (as per the Building Act), instead of a wider range of flood events.

7. Communication Process

All of the issues raised in section 6 above will be taken into account when preparing for the release of future flood hazard information. In addition to this, the following process is proposed for future release of flood hazard information that is not part of a FMP, as FMPs' have a broader process for engagement:

- Prepare a Communication Strategy, including a joint process with the TA's and GWRC, for information release.
- Develop a clear programme for the release of information allowing for the staged release, including to officers, Councillors, land owners and the wider community.
- Release of draft information for community input, with opportunity for feedback.
- Provide opportunities for community drop-in session/public meeting.
- Prepare information sheets with a standard presentation of the flood hazard, and what information is to be put on the LIM and advice for new development.

Flood hazard information for the Porirua Stream is shortly to be released and disseminated. The feedback in the sections above will be used to appropriately inform the Communication Strategy for this information release and others in the future.

Feedback from the Hutt Valley Flood Management Subcommittee meeting of 19 March 2013 will be incorporated into the above process before it is finalised.

8. Recommendations

That the Subcommittee

1. *Receives the report.*
2. *Notes the content of the report.*
3. *Endorses the proposed Communication Process.*

Report prepared by:



Sharyn Westlake
Senior Engineer, Strategy and
Advisory Specialist

Report approved by:



Graeme Campbell
Manager
Flood Protection

Report approved by:



Wayne O'Donnell
General Manager
Catchment Management

Attachment 1: Dissemination of Flood Hazard Information (Report No. 06.664)

Report 06.664
Date 10 November 2006
File N/50/01/19

Committee Landcare
Author Phillip Purves, Senior Engineer

Dissemination of flood hazard information

1. Purpose

To advise the Committee of the Council's policies related to the assessment and dissemination of flood hazard information.

2. Significance of the decision

The matters for decision in this report **do not** trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

3. Background

At its meeting on 22 June 2006 the Landcare Committee received a report on the Mangaroa River Flood Hazard Assessment, which advised that a copy of the Summary Report document for that study was to be forwarded to the Upper Hutt City Council. In their discussion on the results of the flood hazard assessment, the committee members requested that they be formally advised of the Council's policy for ensuring that such flood hazard information is appropriately disseminated to the local territorial authorities involved, their communities and directly affected landowners.

4. Regional policy statement

8.1 Policies

The 1995 Regional Policy Statement (RPS) provides the basis for identifying, assessing and informing the communities of the region on flooding, within the wider *Natural Hazards* context where flooding and earthquakes are identified as the hazards with the greatest potential to cause adverse effects in this region. The primary policy in the Natural Hazards chapter of the RPS in this regard is *Policy 1*, which is:

To ensure that there is sufficient information available on natural hazards to guide decision making.

Further policies ensure that appropriate matters for planning and decision making are considered and that people and communities are provided with relevant information and advice for this.

8.2 Methods

The RPS then provides for suitable methods to help achieve the natural hazards objectives and policies, which in relation to flooding states that flood hazard assessments will be completed for all major floodplains in the Region and that these assessments will include an analysis of the potential effects of flooding events (Method 1). The Regional Freshwater Plan (1999) provides a comprehensive list of the flood hazard assessments that will be carried out.

In regard to the dissemination of the results of those flood hazard assessments, *Method 7* in the Natural Hazards chapter of the RPS states that:

The Wellington Regional Council will make information it has on natural hazards available to the people and communities of the Wellington Region.

5. Assessment and dissemination of information

The RPS provides the Flood Protection Department with both a duty to investigate flood hazards and to make the resulting flood hazard information available to the people and communities of the region. This is consistent with the overall Natural Hazards objective of the RPS to ensure that *any adverse effects of natural hazards on the environment of the Region are reduced to an acceptable level.*

Flood *risk* combines the flood hazard with the vulnerability to that hazard, so that it is the potential risk that establishes the standard and extent of the current flood hazard assessment programme. This in turn explains why there have been a greater number of flood hazard assessments carried out in in the Western part of the region.

5.1 Method 1 Flood hazard assessments

In the Western part of the region we have undertaken flood hazard assessments of the following floodplains:

- Hutt River
- Waikanae River
- Otaki River
- Porirua Stream
- Waiwhetu Stream
- Wainuiomata River

- Mangaone Stream
- Waitohu Stream
- Mangaroa River

The remaining stream programmed to be evaluated is the Pinehaven Stream.

This will complete all of the major assessments required in the western part of the region but leaves a number to be completed in the Wairarapa. With the merging of the flood protection functions into one department we propose a review of all floodplains in the region with a view to identify and prioritise the investigations necessary to complete flood hazard assessments on all floodplains with a significant existing community at risk and/or where development pressures may cause a future flood risk.

5.2 Method 7 – Dissemination of the flood hazard information

The flood hazard information is disseminated to the community in 4 key ways:

- a) The provision of flood hazard maps to the territorial authorities which they hold in their hazard registers and which may be reflected in their district plans.
- b) The provision of flood hazard advice when requested for resource consent applications or by members of the community seeking advice prior to purchase of a property.
- c) Through consultation undertaken as part of the preparation of floodplain management plans or scheme reviews. Our consultation is generally very extensive and is considered an effective way of advising the wider community of the flood risk.
- (d) The provision of flood warnings to TLA's and directly to the community in certain circumstances.

6. Comment

The Council is currently reviewing its RPS which will then lead onto reviews of the regional plans. The Flood Protection department will be taking an active part in these reviews with the aim of ensuring flood risk remains appropriately dealt with in these plans. We will investigate how other Regional and District Councils provide for flood risk management in their areas to ensure we are up with national best practice.

7. Communication

There are no specific communication requirements at this stage.

8. Recommendations

That the Committee:

1. ***Receives the report.***
2. ***Notes the content of the report.***

Report prepared by:	Report approved by:	Report approved by:
Phillip Purves	Graeme Campbell	Geoff Dick
Senior Engineer	Manager, Flood Protection	Divisional Manager, Catchment Management