

**Notes from the meeting with Wainuiomata residents held on 31 October 2011.**

Present:

Residents: Bill Voisey, Godfrey Fernandez, Shane Edwards, Ian Turner, David Lewis, Ken Jackson

GWRC: Matthew Gardner, Sharyn Westlake

Matthew Gardner explained that the hydrology for the Wainuiomata Valley has been updated by Consultants to reflect the last 10 (or so) years of information and the updated hydrology used as input for the reruns of the hydraulic model for the Wainuiomata River flooding. He also explained his flood modelling methodology and calibration, and showed draft flood maps and comparison with the aerial photographs from the February 2004 floods.

Points of discussion:

- Hydrology used for the modelling was discussed. GWRC noted rainfall is not uniform across the valley, and the new hydrology used for draft flood maps represents this variation.
- Availability of information from the Catchpool rainfall gauges - available from Rural Fire. GWRC stated Catchpool information taken into account by Consultants who carried out the update of hydrology.
- How the flood maps are presented. These are currently in blue with deeper areas shown darker. Discussion was around
  - Should there be a key for water depth?
  - Should the river channel be shown in a different colour, with different depth zones across the floodplain?
  - Should lines be shown across the floodplain (at house locations) with different depths shown at points on the lines?
- Flood spread is shown across the houses - this does not necessarily mean that a house may flood. The model does not pick up houses. GWRC noted that all flood maps have a similar representation - i.e. flood spread shown over the house for the aerial photo background.
- Will the maps for consultation have the same legend as previously? These include potential bank erosion, structural damage area, erosion hazard area and major tributaries? To be confirmed by GWRC, however initial thoughts are that the erosion hazard area is likely to be similar as that is mapped from the river meanders and where Hutt City Council have undertaken to protect the road, the erosion hazard line will likely move to the road edge. The structural damage area may change depending on the information available from the remodelling, as it is based on river velocity and water depth.
- The margin of error for the model was discussed, the allowance of freeboard queried and also whether the allowance for freeboard is too high.
- GWRC noted that freeboard of 0.6m was used for the model. This was not changed from the 2000 model and analysis of how the freeboard was determined is included in the 2000 modelling report. Freeboard is defined as an allowance to take account of the uncertainties associated with:

- Precision of the modelling.
- Physical processes that have not been allowed for in the design water level, e.g. debris build-up, wave action, changes in bed level.
- Uncertainty in the prediction of physical processes (e.g. rainfall patterns) that affect the design water level.

The inclusion of a freeboard allowance provides an upper confidence level that ensures that the water levels will have a high degree of certainty of not being exceeded. It is intrinsic to the model, and should not be regarded as an 'optional extra'.

- GWRC noted that climate change is not included in the current draft maps. Current GWRC Flood Protection policy is to model an increase in rainfall intensity of 16% and sea level rise of 0.5m by 2100 for new hydraulic models. As this project was a re-run of the 2000 model, climate change has not been included yet. However, GWRC is looking at a project on the region-wide vulnerability to climate change, and an update of the Wainuiomata River flood hazard to include climate change is likely to be carried out (potentially in 2012).
- The process for consultation was queried, and 'where to from here'. Residents requested that maps of their property showing the flood hazard be sent to every resident. GWRC stated that the process for consultation has yet to be discussed, and is to go to the Economic Wellbeing Committee on 24 November for approval.