

BEFORE THE HUTT CITY COUNCIL

Proposed District Plan Hearings Panel – Stream 5 – Natural Hazards

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the Proposed Lower Hutt District Plan

**PROPOSED REMODELLING PARAMETERS FOR FLOOD HAZARD
OVERLAYS**

MEMORANDUM OF

Stephen Davis	Senior Policy Planner, Hutt City Council
Alistair Osborne	Principal Stormwater Modeller, Tiaki Wai
Nicola Arnesen Council	Manager - Policy, Wellington Regional

23 September 2026

1.0 Flood Remodelling

- 1.1 The panel in Minute #14 sought¹ for Council to re-run the flood models used in the Flood Hazard Overlays with a climate change assumption consistent with that used in Wellington and Porirua's district plans, as recommended in the Section 42A Report².
- 1.2 The panel sought that Council staff and staff from the Wellington Regional Council meet to confirm recommended parameters for the re-modelling and to publish that for comment from other submitters³.
- 1.3 Our recommended parameters are in the Appendix to this memorandum.
- 1.4 The recommended parameters do not represent a position from Wellington Regional Council on the appropriateness of any specific climate change scenario. Wellington Regional Council flood protection advises and uses more conservative scenarios in its fluvial flood modelling for engineering design and flood mitigation purposes.

Stephen Davis for Hutt City Council

Alistair Osborne for Tiaki Wai on behalf of Hutt City Council

Nicola Arnsen for Wellington Regional Council

23 September 2026

¹ Minute 14, para 10.

² Section 42A Report, Natural Hazards, paras 843-849 and 927-931.

³ Minute 14, para 11.

APPENDIX: RECOMMENDED PARAMETERS FOR FLOOD MODELLING

The six Tiaki Wai models (Black Creek, Eastern Lower Hutt, East Harbour, Petone, Stokes Valley, Western Hills):

Re-run models as described in those build reports but replacing the sea level rise assumption with 1m instead of 1.59m, and rainfall increase with 20% instead of 35%.

In particular, the following would remain the same:

- LIDAR layers and building coverage
- Hydraulic network
- Velocity/depth criteria for classification into High/Medium/Low hazard overlays
- Process for smoothing outputs into layers

GWRC Hutt River model:

Use existing model outputs for 1m sea level rise / 20% rainfall increase assumption (2300 m³/s river flow) instead of 1.59m / 35% rainfall increase (2800 m³/s river flow)

All other parameters would remain the same, including:

- Elevation
- Hydraulic network
- Stopbanks (e.g. no account made for Riverlink stopbank upgrades)
- Criteria for classification into High/Medium/Low hazard overlays
- Process for smoothing outputs into layers

GWRC Waiwhetū River model:

Re-run model using rainfall uplift consistent with RCP4.5 scenario (20% increase from present day instead of 35%).

All other parameters would remain the same, including:

- Sea level rise (1.59m assumption)
- Elevation
- Assumptions for the Hutt River flow boundary condition (static 10% AEP flow)
- Criteria for classification into High/Medium/Low hazard overlays
- Process for smoothing outputs into layers

Combination into single flood hazard layer

As with the PDP maps, the hazard layers would be combined by taking the highest category of the three in any one spot (e.g. if one model is High and another is Moderate, then that location would be High). For Low Hazard areas, the modelled freeboard would be the higher of the two.

Scope check

The final output would be double-checked against the PDP flood hazard maps, with any locations that were higher after re-modelling instead remaining at their PDP notified level.