



16 February 2024

Questions for Hawke's Bay Regional Council

Maintenance Issues

A common theme of feedback the Panel has received from the community concerns a perceived lack of maintenance in and around rivers and the Council's drainage network across the Region.

1. Please comment in general terms on the levels of maintenance across the Region's rivers and drainage network and provide Council's assessment of the contribution the levels of maintenance made to the magnitude and duration of flooding during Cyclone Gabrielle.
2. Please provide details of how the Council's annual budget for river maintenance is determined.
3. Please provide details of how the Council prioritises river maintenance activities across the Region.
4. Please advise what plans the Council has /intends in order to quantify and fund additional river maintenance arising as a result of climate change?
5. Please provide details of any changes to maintenance plans that have been made, or are proposed, in direct response to Cyclone-Gabrielle.

Another common theme of feedback received from the community relates to a perceived lack of gravel extraction across the large gravel bed rivers of the Region. From the Panel's evaluation of available information (HBRC 2022-23 Gravel Allocation Report) the Waipawa River stood out as having a significant volume (1,452,000 m³) of excess gravel above the design grade line.

6. Please comment and provide all relevant data on the extent to which this excess gravel build-up in the Waipawa River contributed to the flooding that occurred through Waipawa during Cyclone Gabrielle.
7. What, if any, future initiatives are planned for managing excess gravel build-up in the Waipawa River?
8. What, if any, future initiatives are planned for managing excess gravel build-up in other rivers across the Region?
9. How does the Council respond to resource consent applications for gravel quarries outside of the active river channels and how does this affect Regional gravel supply?
10. To what extent has the Council considered non-market mechanisms to address the locations at which gravel is extracted and the amounts to be removed at each and will non-market mechanisms be part of any future initiatives to manage excess gravel build-up in rivers across the Region?

The following performance measure is included in the 2022-2023 Asset Management Contract:



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B.7.3 Maintenance of Streams, Waterways and Channels

Streams, Waterways and channels shall be maintained such that:

- e) Channel siltation does not occur to a depth of more than 150mm above the design invert or a straight line between the inverts of the nearest culverts upstream and downstream from that location. Culvert inverts are to be checked against design invert levels, where these are available.

11. Please provide any information that explains how the extent to which this performance standard is being achieved is determined - using the Northern Schemes Assets as an example.

Another common theme of feedback received from the community was that river mouths were partially blocked and consequently river flows impeded during Cyclone Gabrielle. The Panel notes that river mouth openings are not included in the scope of the Esk/Whirinaki Scheme nor the Northern Scheme that includes the Wairoa River.

12. Please provide details of river mouth opening practices generally across the Region, with a particular emphasis on the Esk River, Wairoa River and Te Ngarue Stream and whether any works had been undertaken on these river mouths in the days leading up to Cyclone Gabrielle.
13. Please provide Council's assessment of what effect more open river mouths would have had on the flooding that occurred in the lower reaches of the Wairoa and Esk Rivers and the Te Ngarue Stream during Cyclone Gabrielle?
14. Please advise what, if any, future initiatives the Council has planned for managing river mouth opening practices/procedures to prevent impediment to river flows.

Structural Assets

Stop Banks

The following questions relate to planning for a flood event larger than the design standard of the current stopbanks.

A Super Design Contingency Plan is referred to in the Heretaunga Plains Flood Control Scheme 2021 Asset Management Plan (HP-AMP) - *"Review and development of contingency plans for super-design events within the main river systems is to be undertaken as part of the super design flood review, following recommendations made in the report Super Design Flood Event (Beca 2000)"* Pg 64 *"Develop a Super Design Contingency Plan in accordance with the actions set out in the 2008 proposal"* Pg 195. It was also noted on Pg 195 that the development of this plan was taken out of the improvement plan.

15. Please explain the rationale for the Super Design Contingency Plan for the Heretaunga Plains being taken out of the improvement plan.
16. Please advise what plans/systems the Council had in place for events that exceeded the capacity of the Heretaunga Plains stopbank system?

It was noted during the Panel's site visits and hui at Waiohiki marae that the Tuataekuri stopbank on the right bank upstream of Waiohiki Bridge stops at or about benchmark BM24R with no obvious high ground to the north of Victoria, Pentar or Ngati Hinewera Lanes. It appeared that this area was the source of significant flooding in this area.

17. Please confirm the factual situation as to the extent of flood protection provided in this area.



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18. Subject to the response to 17. above, would the flooding experienced around the Waiohiki marae have been any different if flood protection up to the 1% AEP protection referenced in the HP-AMP had been in place prior to Cyclone Gabrielle?
19. Subject to the response to 17. above, what plans are in place for addressing the gap in the stopbanks at Waiohiki?

Another common theme of feedback from the community was that several stopbank breaches occurred on the Ngaruroro River where guide banks/access tracks were located on stopbanks.

20. Please provide Council's assessment of whether and to what extent guidebanks/access tracks contributed to the failure of stopbanks on the Ngaruroro River, including details of the condition rating from last asset inspection of the Ngaruroro River stopbanks.

The draft information provided to date by NIWA suggests that Cyclone Gabrielle was around a 200-year flood in the Esk River. The Esk River & Whirinaki Drainage Scheme AMP states a 500+ year flood as the level of service for the Pan Pac/Contact Energy/Transpower site which was significantly flooded during the event.

21. Please provide Council's assessment of why the Whirinaki Drainage Scheme failed below its agreed level of service.

Civil Defence briefings reviewed by the Panel indicate that the Waipawa River stopbank at Walker Road was not at design standard prior to Cyclone Gabrielle. From information received from the community and the Panel's site visits, a significant breakout occurred at this location, resulting in water flowing down the old course of the river (Papanui Stream).

22. Please clarify how long this stopbank had been below the design standard and the reasons why reinstatement/repairs had not been completed.
23. If this stopbank had been up to full design standard, would this breakout have occurred and what would the effects on the main river channel have been?

Feedback from the community suggests that it would be desirable to provide a controlled overflow (or low flow) provision into the Papanui Stream.

24. Please provide the Council's response to that suggestion and if it has any plans in that regard.

Bridges

Debris loadings on bridges has been highlighted as a significant issue across the Region during Cyclone Gabrielle and appears to have contributed to stopbank breaches, particularly at Awatoto.

25. Please provide details of how the Council works with bridge asset owners to manage debris build-up removal and any information available on the state of debris at the railway bridge at Awatoto prior to Cyclone Gabrielle.
26. Please provide performance standards from any recent bridge resource consent applications and comment on how these may change in response to Cyclone Gabrielle.

Capital works on flood management assets

27. Please provide details of how the overall capital works budget for flood management assets is determined.



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28. Please provide details of any changes to capital works budgets that have been made, or are proposed across the Region in direct response to Cyclone Gabrielle?
29. What additional capital budget does the Council have/intend to enable capital works to address the effects of climate change?

Flood Response

The performance and accuracy of the Council flood forecasting model is a key part of informing and prioritising flood response activities. Feedback received from the community indicates that the months leading up to Cyclone Gabrielle had been particularly wet (not least due to Cyclone Hale in late January 2023) and it is likely the groundwater levels and base flows in rivers were elevated above "normal" levels.

31. Please provide further details on the Council's flood forecasting model including specifically how antecedent conditions are incorporated into the model's inputs and outputs.

The Panel has read the MetService internal review and correspondence between the Council and MetService regarding the accuracy of the MetService rainfall forecasting for the event and have the following questions regarding these matters.

31. Could you please clarify how the Council utilises MetService forecasts for decision-making and the role it plays in location-specific (e.g. Esk Valley) risk-based approaches?
32. If the MetService forecasted rainfall had been exactly what actually occurred, to what extent would the Council's flood forecasting model results have changed?
33. To what extent would the Council's flood management responses have been different if the flood forecast two days prior to Cyclone Gabrielle had been more aligned with what actually occurred?

Feedback from the community is critical of the Council for not having an accessible flood warning system available to the public.

34. What, if any, future initiatives are planned in this regard?

It is noted that the Council's Flood Response Manual (2015) has no information on evacuation trigger levels for any of the rivers within the Region. From reviewing the timeline and communications logs evacuation warnings appeared to be fairly ad-hoc during Cyclone Gabrielle.

35. Please provide details of what evacuation trigger levels were used to inform and advise Civil Defence on evacuation requirements during Cyclone Gabrielle and what planning and analysis were used as the basis for this information.

A consistent theme from the community's feedback was that the performance of pump stations during Cyclone Gabrielle was clearly affected by the widespread power outage and in some cases complete inundation of the stations occurred – one example, of many, being at Haumoana.

36. Please provide details of the current back-up systems in general for pump stations in the case of power outages and any plans the Council has to improve them.
37. Please provide details of funding and investment in pump stations arising as a result of climate change.



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A number of eye-witness accounts suggested sudden “waves” of flood water occurred where levels rapidly rose and then subsided.

38. Please comment on any observations to support the theory of the formation and failure of landslide dams in upper catchment areas and the extent to which/if this may have contributed to flood waves propagating downstream.
39. Please comment on any observations of maximum head build up at bridges that subsequently failed and the extent to which/if this may have contributed to flood waves propagating downstream.

The panel has been told about a “spillway” on the right bank of the Tutaekuri River and that there had been some intention of mechanically breaching it during Cyclone Gabrielle.

40. Please provide details of any designated breach points on the Tutaekuri River stopbank system and whether instructions were issued to activate any of them during the Cyclone Gabrielle.

Planning Controls

41. As a result of Cyclone Gabrielle, what, if any, consideration has the Council given to updating the Regional Policy Statement to provide a more directive framework that would avoid or limit residential/urban development in flood prone/high hazard areas?
42. In relation to flood prone/high hazard areas, what involvement has Hawkes Bay Regional Council taken when the Region's District Councils have notified their respective district plans?
43. Citing as many examples as possible, to what extent does the Hawkes Bay Regional Council become involved in land use and subdivision consent applications involving flood prone/high hazard areas?

The Panel has received a significant amount of feedback on how land uses in the upper reaches of the Region's rivers affect erodibility of the land and flood potential in the lower catchments - in particular, the relative contributions resulting from pastoral farming vs plantation forestry vs the retention/regeneration of native vegetation.

44. Does the Council have access to any technical information that compares the erodibility of steep country in the Region's upper catchments and the respective downstream flood risks associated with pastoral farming, plantation forestry, and the retention/regeneration of native vegetation?
45. Please explain the existing controls available to Hawkes Bay Regional Council for managing agriculture and forestry activities in the Region, particularly in head water catchments and/or upper catchments, and the approach taken when such activities are proposed at scale.
46. Please advise any intended changes to existing controls for managing agriculture and forestry activity in the Region, particularly in head water catchments and/or upper catchments, to address the effects of climate change.

Mana Whenua

47. Using representative examples, please provide details of the formal and informal relationships the Council has with mana whenua organisations, at both the governance and operational levels.
48. Please provide details of if/the extent to which Council engages with mana whenua when planning and implementing flood protection and flood management activities?



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49. Where Māori land was compulsorily acquired for flood protection purposes (for example at Waiohiki) to what extent did the subsequent works adequately protect Māori land and communities during Cyclone Gabrielle?
50. Feedback from Māori and the community is that Māori land and less prosperous communities are disproportionately underserved in terms of flood protection and flood management activities. The Council is invited to respond to this criticism, including addressing the question of how the quantum of Council's investment in flood management activities is linked to rating policies.
51. Could the Council please explain if/the extent to which its flood management activities are influenced by the presence of wāhi tapu, mahinga kai, wai Māori and whenua Māori alongside and within rivers it manages?