

Memo



Date	05/10/2026	Job No	26501
To	Tiffany Gower	From	Jon Bell
CC		Reviewer/Approver	
Project Name	Plan Change 3 Flood Hazard		
Subject	BUL03 Growth Area – Dam Breach Hazard		

1. Purpose

This memorandum supplements the BUL03 Growth Area Flood Risk memorandum dated 19 February 2026 by assessing whether modelled breaches of the Marton water-supply dams affect the suitability of the land for residential rezoning.

2. Background

Stantec modelled a range of breach scenarios for the Marton water-supply dams for Rangitikei District Council. The worst-case modelled scenario comprised the simultaneous breach of dams B and C during a “rainy-day” event. The model indicates that this scenario would inundate parts of the BUL03 Growth Area.

Figure 1 shows the modelled dam-breach inundation across BUL03. Approximately 715 m² would be inundated in the northeastern part of the site, and approximately 7,700 m² on the lower terrace in the southern part of the growth area.

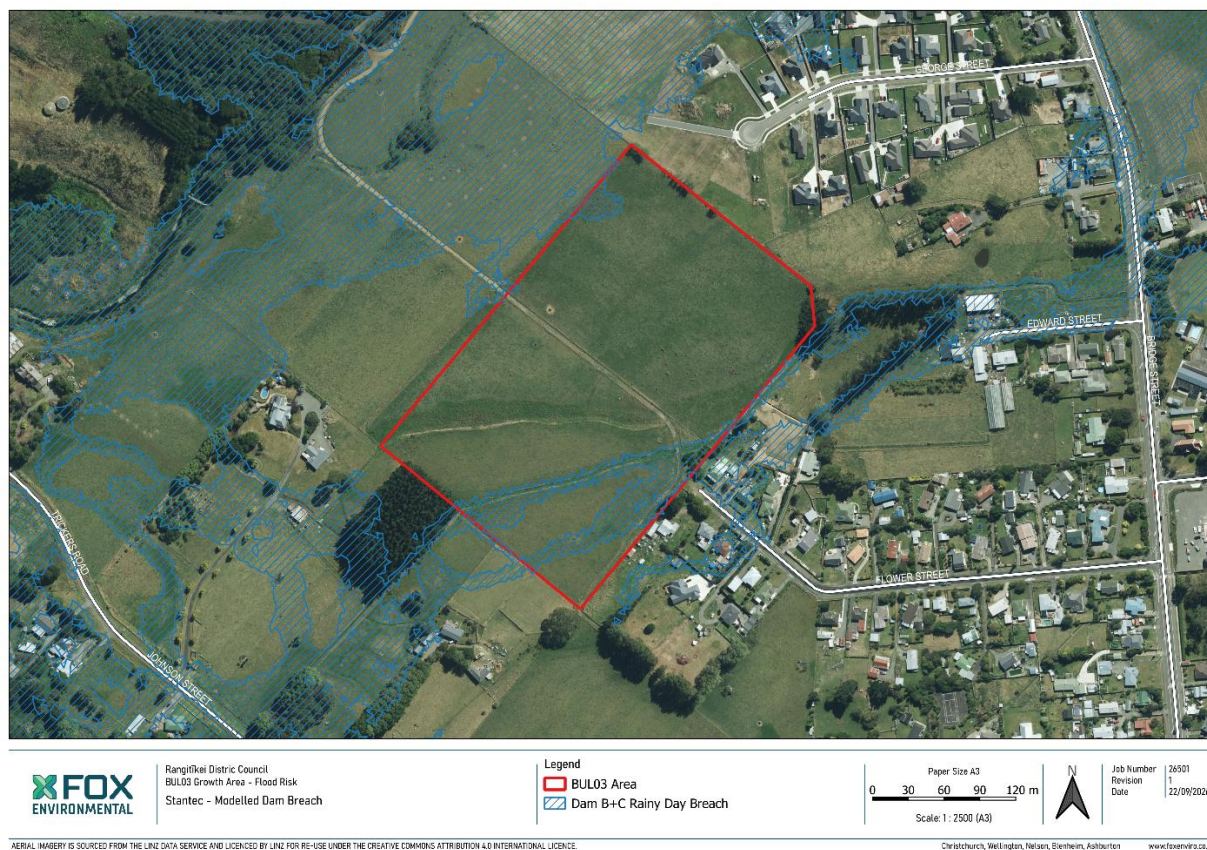


Figure 1 – Modelled Inundation from a Simultaneous Breach of Dams B and C

3. Discussion

Figure 2 compares the modelled dam-breach inundation extent with the modelled 0.5% AEP flood extent for the Tutaenui Stream. The Tutaenui Stream event inundates a substantially greater proportion of the BUL03 Growth Area than the modelled dam-breach scenario.

The original flood-risk assessment recommended retaining the lower terrace in the southern part of the site for stormwater detention or retention and for conveying modelled floodwater through the growth area. Under that approach, the modelled dam-breach inundation on the lower terrace would not affect new buildings.

The original flood-risk assessment also recommended earthworks to convey floodwater from the north along the western boundary of the growth area. Subject to detailed design confirming that the proposed conveyance corridor can accommodate both Tutaenui Stream flooding and the modelled dam-breach flow without increasing risk elsewhere, this approach would manage the inundation along the western boundary and avoid effects on new buildings. On the information reviewed, the dam-breach hazard does not change the original conclusion that part of the upper terrace may be suitable for residential development, provided the recommended flood-management measures are implemented.

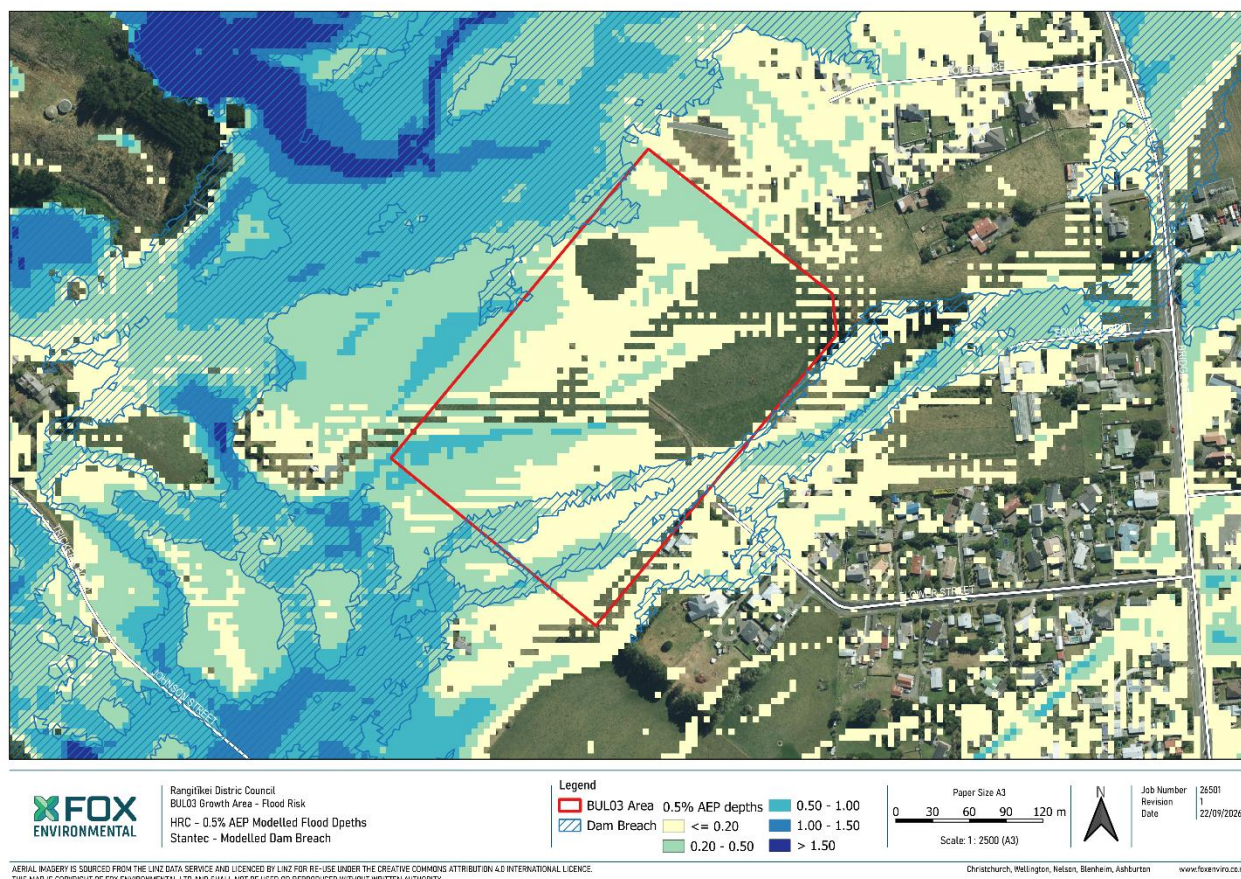


Figure 2 – Modelled Dam-Breach Inundation Compared with the 0.5% AEP Tutaenui Stream Flood Extent

4. Conclusion

The modelled dam-breach hazard does not change the original conclusion that part of the upper terrace may be suitable for residential development. The lower terrace should remain undeveloped and be used for flood conveyance and stormwater detention or retention. Any development should be subject to detailed hydraulic assessment and design confirming that finished levels, flood-conveyance measures, and safe access can accommodate both Tutaenui Stream flooding and the modelled dam-breach flow without increasing flood risk elsewhere.