

ATTENTION	Expert Consenting Panel - Ashbourne
SUBJECT	Response to Minute 16
AUTHOR	Clare Houlbrooke

This memorandum provides a response to Minute 16, the Ashbourne Development.

The panel have requested a response to concerns on the mounding assessment for proposed Stormwater Basin A raised by Mr Williamson.

Initial Groundwater Levels for Mounding Modelling

Mr Williamson has raised a concern that the starting groundwater levels prior to a major storm event may not be conservatively high. He is aware and acknowledged that various iterations of the mounding simulation started with initial groundwater levels at 3.5 m below the top of the basin (btob; 66.5 m RL), 5.2 m btob and 6.0 m btob. WGA considers that these simulations are reasonable, especially given that the model with a starting groundwater level of 3.5 m btob is conservative with respect to the starting level. This conservatism has been shown by observed groundwater levels being much lower than the maximum starting level modelled, even during higher rainfall periods, as detailed below.

WGA notes that substantial stormwater events can occur at any time of year, even during periods with low preceding groundwater levels (e.g. Cyclone Gabrielle). However, a conservative approach has been used by WGA to consider mounding under high initial groundwater level conditions.

Manual measurements and continuous automated monitoring using pressure transducers were in place in two piezometers in the location of Basin A from December 2024 until August 2025. During this time no groundwater was detected in these piezometers, i.e. they were dry for the full monitoring period (Figure 1). The rainfall during February and March 2025 was below average (Figure 2 and Figure 3). However, since that time, monthly rainfall has been predominantly at or above average, with the exception of August 2025. The two piezometers were replaced with 25-P3, which subsequently recorded a maximum level of 5.3 m below ground level in a record extending into December 2025 (Figure 4). Therefore, modelling a groundwater level at 1.7 m above observed levels during a relatively high rainfall recharge year is considered sufficiently conservative (initial model at 3.5 m btob).

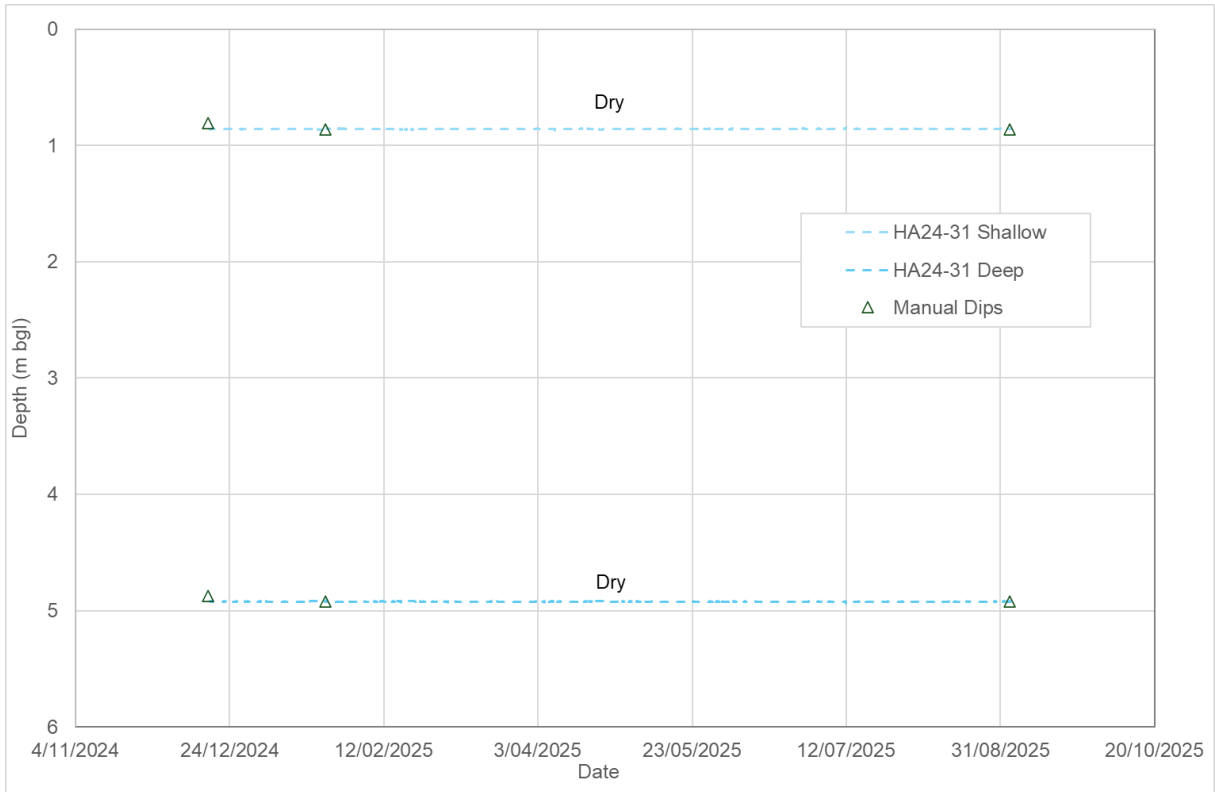


Figure 1: Dry Conditions Monitored in Two Piezometers at the Proposed Basin A

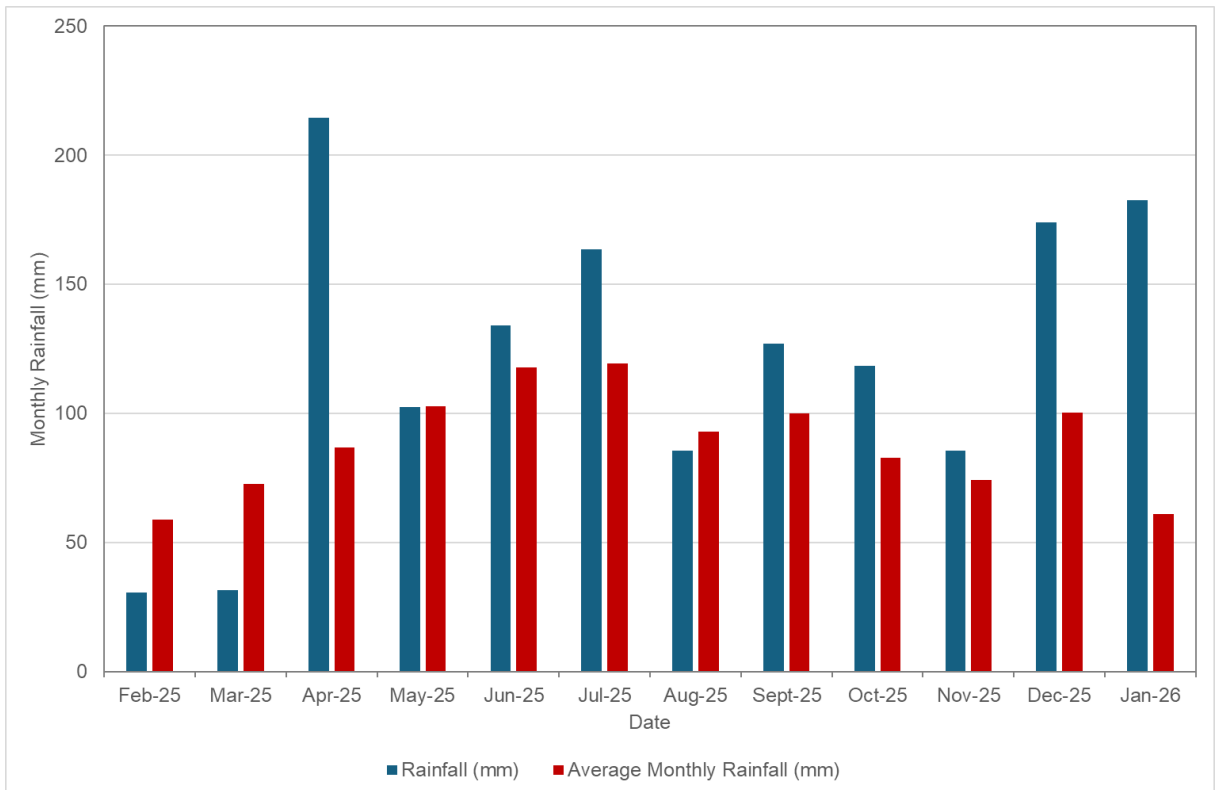


Figure 2: Rainfall at Tamihana - Matamata Aerodrome (WRC 2026)

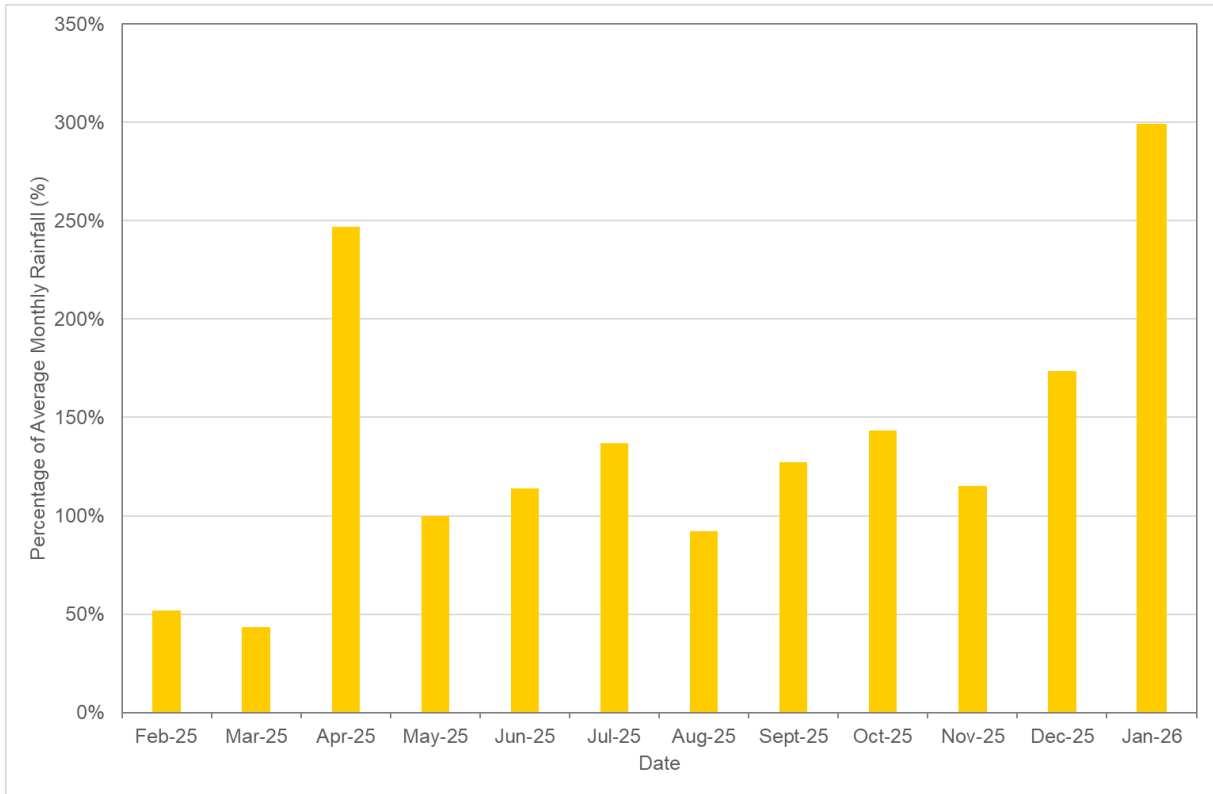


Figure 3: Percentage of Average Monthly Rainfall at Tamihana - Matamata Aerodrome (WRC 2026)

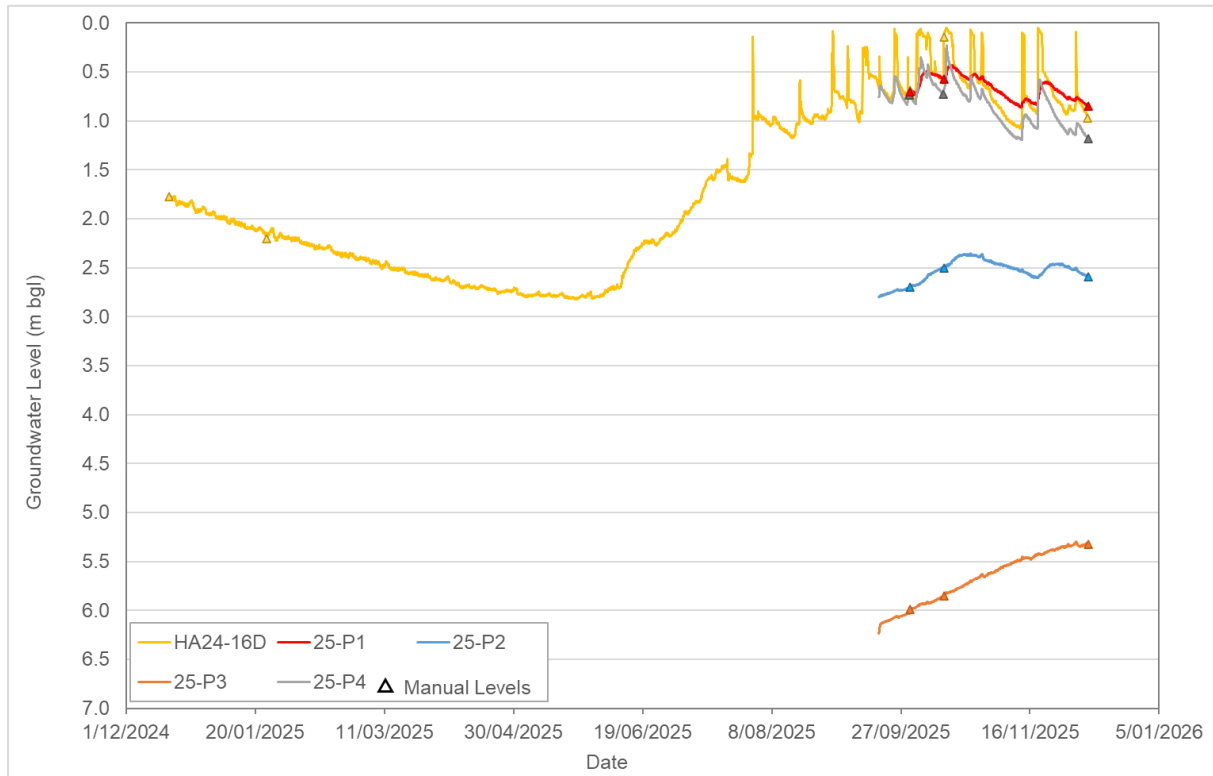


Figure 4: Automated Groundwater Level Records from the Ashbourne Site

Soakage Rates

WGA notes that groundwater mounding has been simulated to confirm that mounding arising from stormwater infiltration would not lead to issues for nearby sites, rather than to demonstrate that all the run-off from design storms can be infiltrated. Maven, the stormwater engineers for this project, are responding separately to the stormwater design storage concerns raised.

In terms of the “Storage Volume Target” value of 13,650 m³/day presented in the tables in WGA’s response to Minute 14, this was an early value provided by the stormwater engineers. Storage volumes are not actually used as inputs to or outputs from the groundwater mounding simulations. The value was still present in the table from previous notes and is not relevant to the mounding assessment. The matter of basin storage is addressed separately by Maven.

Consent Conditions

The agreed consent conditions, as detailed in the JWS, were passed on for inclusion in the consent. I agree they should be included in the stormwater conditions.

Yours sincerely,



Clare Houlbrooke
Principal Hydrogeologist
WALLBRIDGE GILBERT AZTEC