

Land south of Northlands Lane: Groundwater monitoring

Introduction

Aqua Terra Consultants Ltd (Aqua Terra) were instructed by Fairfax Acquisitions Ltd (the Client) to undertake a desk study (ref: P25017_R1, October 2025) and infiltration testing (ref: P25017_R2, July 2025) on a parcel of land south of Northlands Lane, Storrington (the Site). As part of the infiltration testing, and to support the preparation of a drainage strategy for the proposed development, Aqua Terra are collecting 12 months of groundwater monitoring data for the Site.

Upon completion of the soakaway testing, and to provide suitable groundwater monitoring points, trial pit TP02 was backfilled with clean single sized gravel with a 50mm diameter monitoring standpipe and raised cover. The location of TP02 along with a log of ground conditions is presented in our infiltration testing report (see P25017_R2). A water level data logger was installed within the monitoring standpipe of TP02 to enable continuous groundwater monitoring with regular manual dips for calibration. Table 1 below details the conditions at the start and end of the monitoring periods.

Table 1 Manual groundwater monitoring

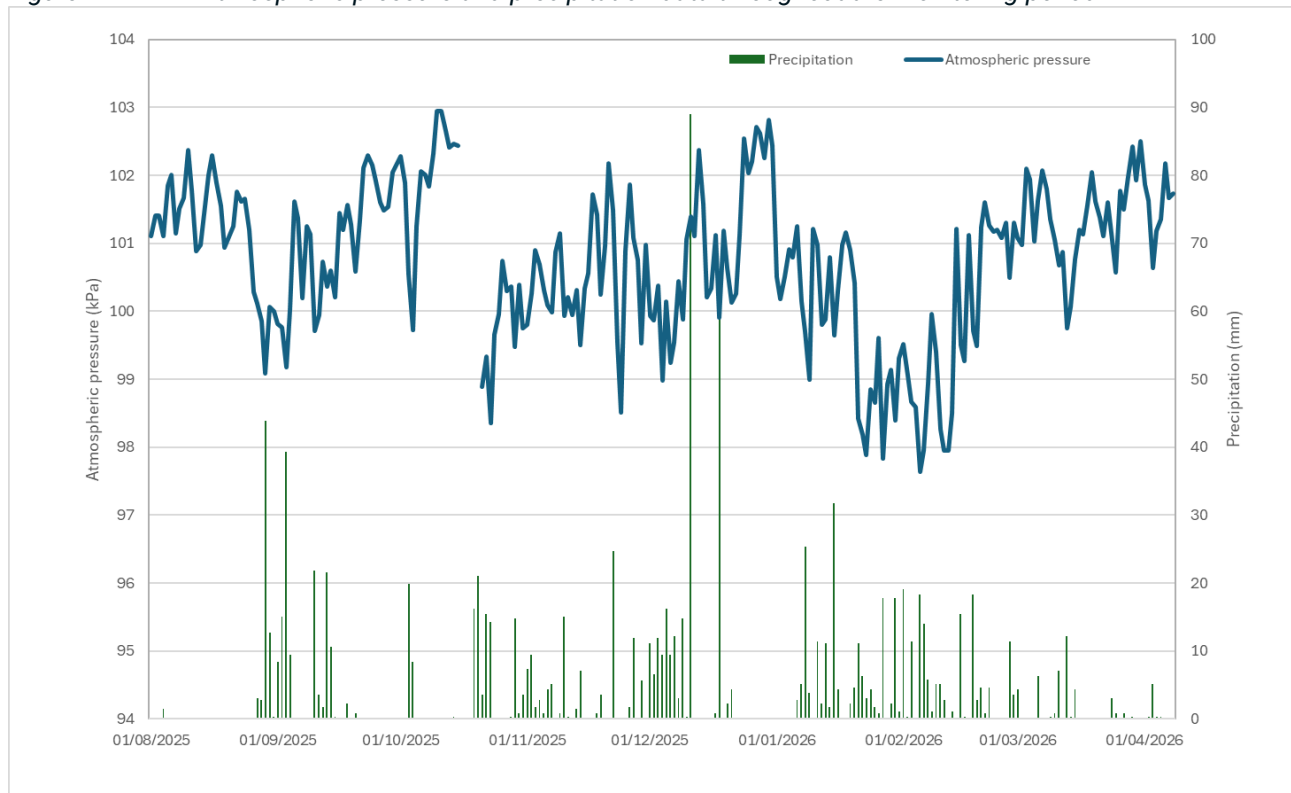
Locality	Geology	Date	Time	Well depth (m bgl*)	Water level (m bgl*)
TP02	Head Deposits	Install (31 st July)	15:00	2.85	2.74
		Recovery (15 th October)	13:15		
		Install (20 th October)	16:00		2.54
		Recovery (15 th December)	12:30		2.55
		Install (15 th December)	11:45		2.55
		Recovery (10 th February)	10:45		2.58
		Install (10 th February)	11:30		2.58
		Recovery (9 th April)	09:00		2.61

*m bgl = meters below ground level

The data loggers were set up to take a reading every fifteen minutes. A barologger was also installed within the headworks of TP02 to record variations in barometric pressure across the monitoring period. Barometric pressure data as well as manual groundwater dip readings were used to correct the data. Barometric pressure recorded on Site and precipitation data from a nearby weather station are presented in Figure 1 below. A wide range of barometric pressures have been recorded across the monitoring period, as well as several periods of high and low rainfall. Weather data taken from the nearest Met Office monitoring station has been included for reference in Table 2 below.

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Figure 1 *Atmospheric pressure and precipitation data throughout the monitoring period*



Precipitation data sourced from Wunderground historic data recorded at IPULB072

Table 2 *Total precipitation recorded at closest Met Office weather station (Eastbourne)*

Month	Precipitation (mm)
August	23.2*
September	117*
October	120.6*
November	63.4*
December	94.2*
January	163.4*
February	125.1*
March	26.6*

**Marked as provisional by Met Office*

Results

The graphs below show pressure fluctuations recorded by the data loggers across the monitoring period.

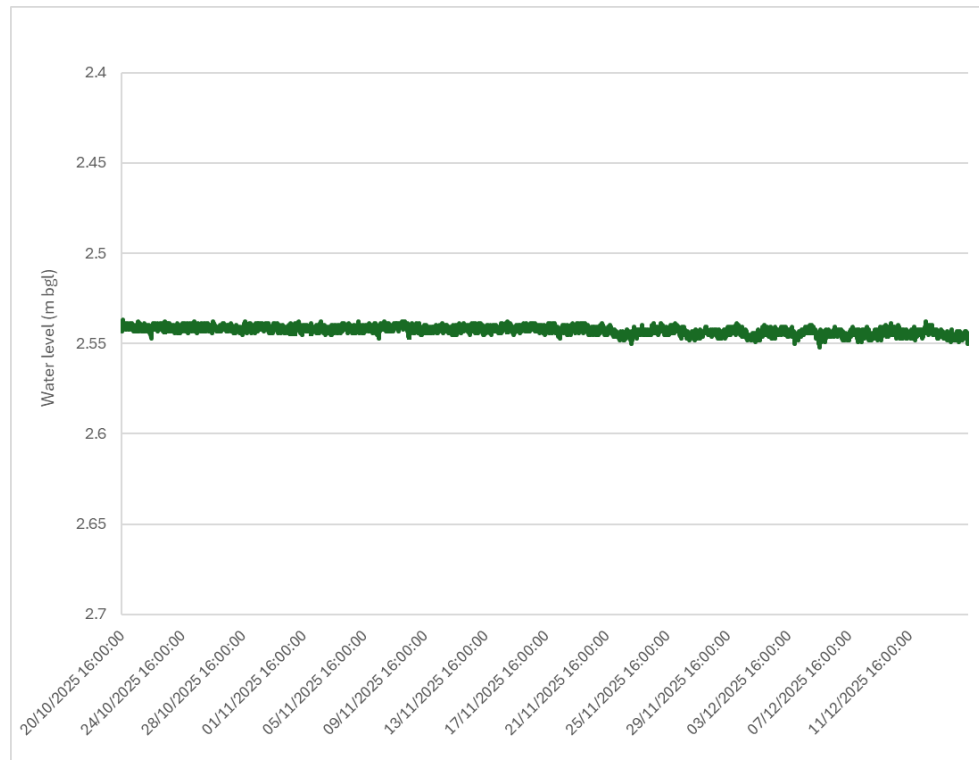
31st July to 15th October 2025

A data logger fault resulted in no continuous groundwater level data being recorded over this period. Manual dips were however recorded at the start and end of the monitoring period.

20th October to 15th December 2025

Figure 2 below presents data collected from the data logger installed within TP02. The data has been corrected using barometric data as well as manual groundwater dips. This confirms the groundwater level has remained at a constant level throughout the duration of the monitoring period.

Figure 2 Recorded water level in TP02 (20th October to 15th December 2025)

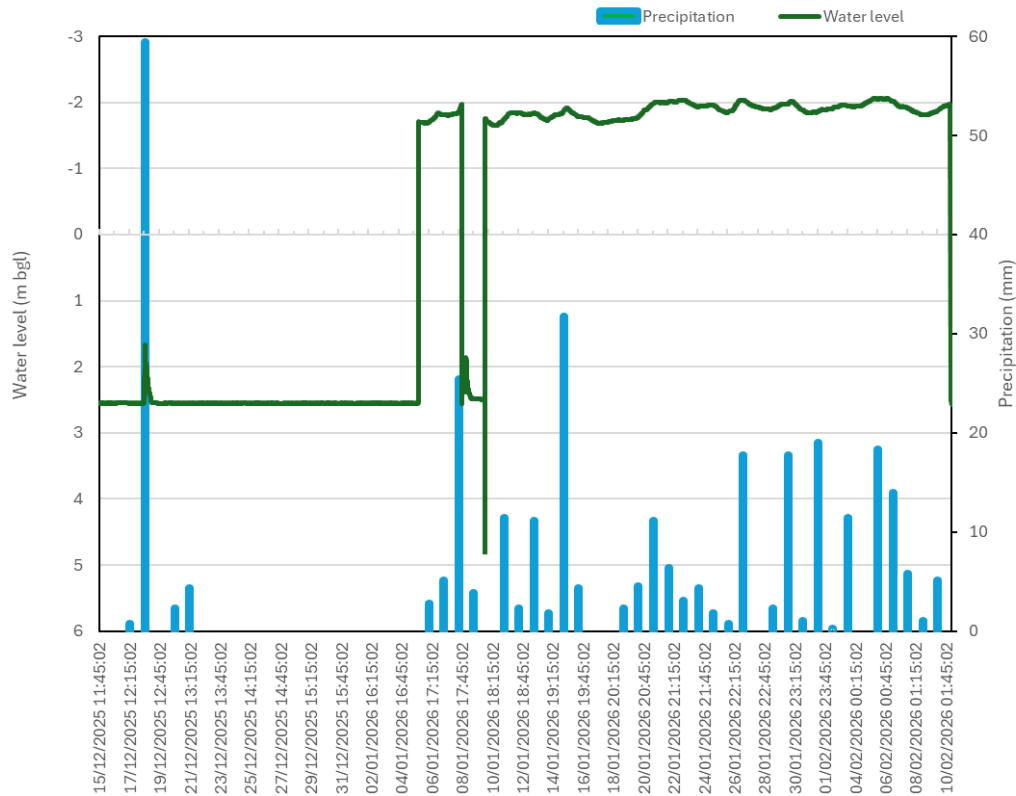


15th December 2025 to 10th February 2026

Several large fluctuations in pressure were recorded by the data logger in TP02 between the 5th and 10th January. Data recorded across the whole monitoring period is presented in Figure 3. These large fluctuations in pressure are thought to be a result of ground settlement within the backfilled trial pit, as the ground surface around the installation was noted to have settled during the manual groundwater monitoring visit. Data has therefore been divided into two, 15th December to 5th January and 10th January to 10th February, presented in Figure 4 and Figure 5 respectively.

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Figure 3 *Recovered groundwater water level data 15th December to 10th February*



As in the previous monitoring period, groundwater level appears to stay relatively steady between the 15th December and 5th January with the exception of a spike in groundwater level on 18th December. This corresponds to a high rainfall event on the same date. Groundwater levels show a rapid response and recovery, returning to pre-rainfall levels by midnight on 18th December.

Between 10th January and 10th February, groundwater levels show a gradual overall increase. There is more variation in groundwater level in this monitoring period than seen previously, likely a result of the high rainfall throughout this monitoring period. Groundwater levels are closely linked to precipitation with peaks in groundwater level corresponding to high rainfall events.

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Figure 4 Recorded water level in TP02 (15th December 2025 to 5th January 2026)

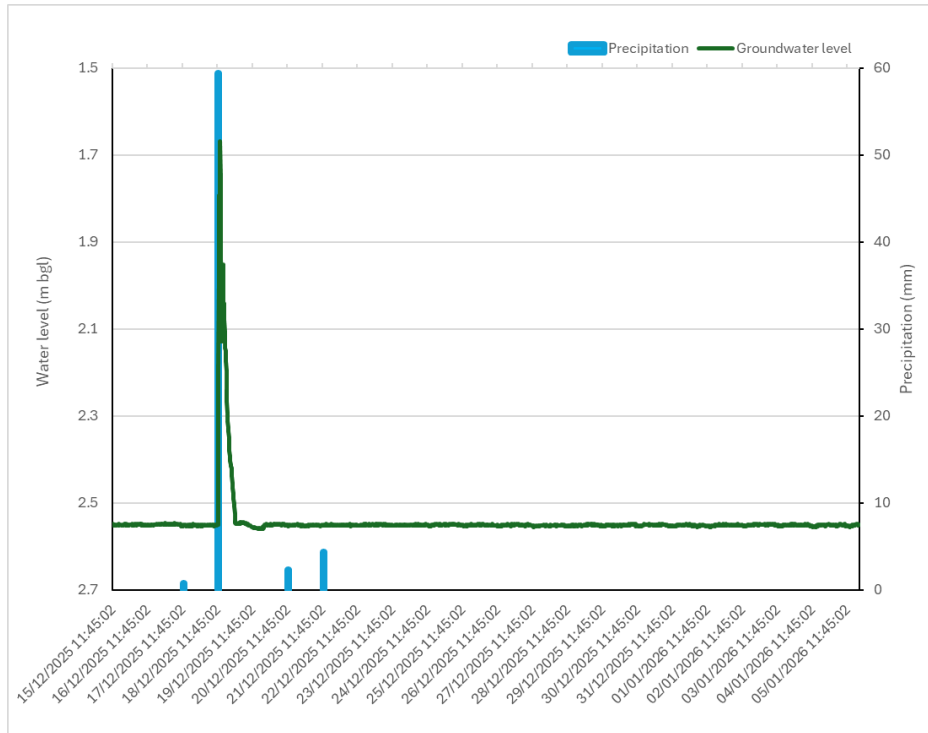
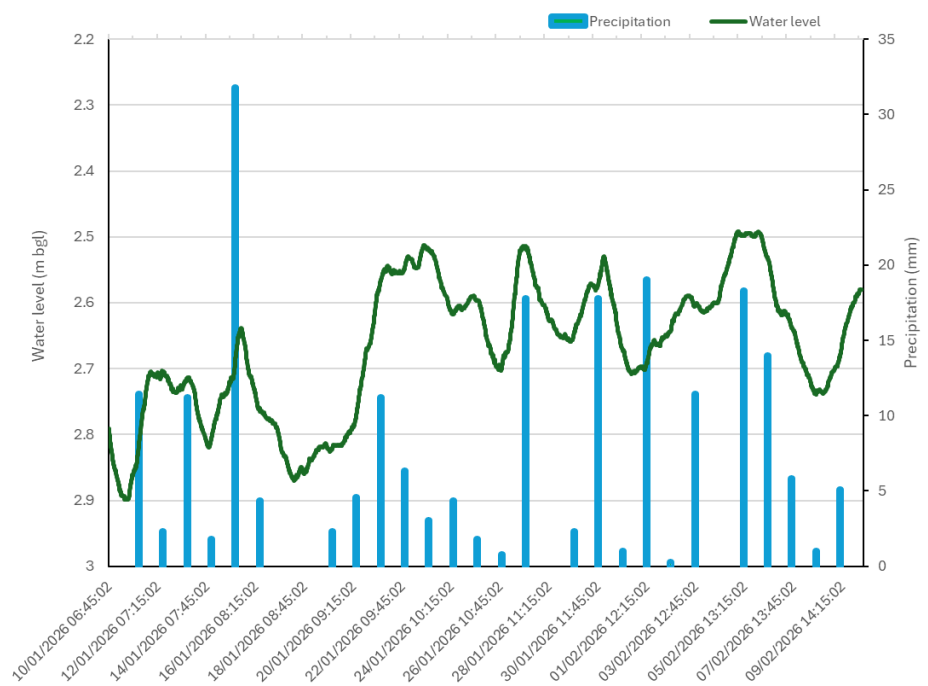


Figure 5 Recorded water level in TP02 (10th January to 10th February)

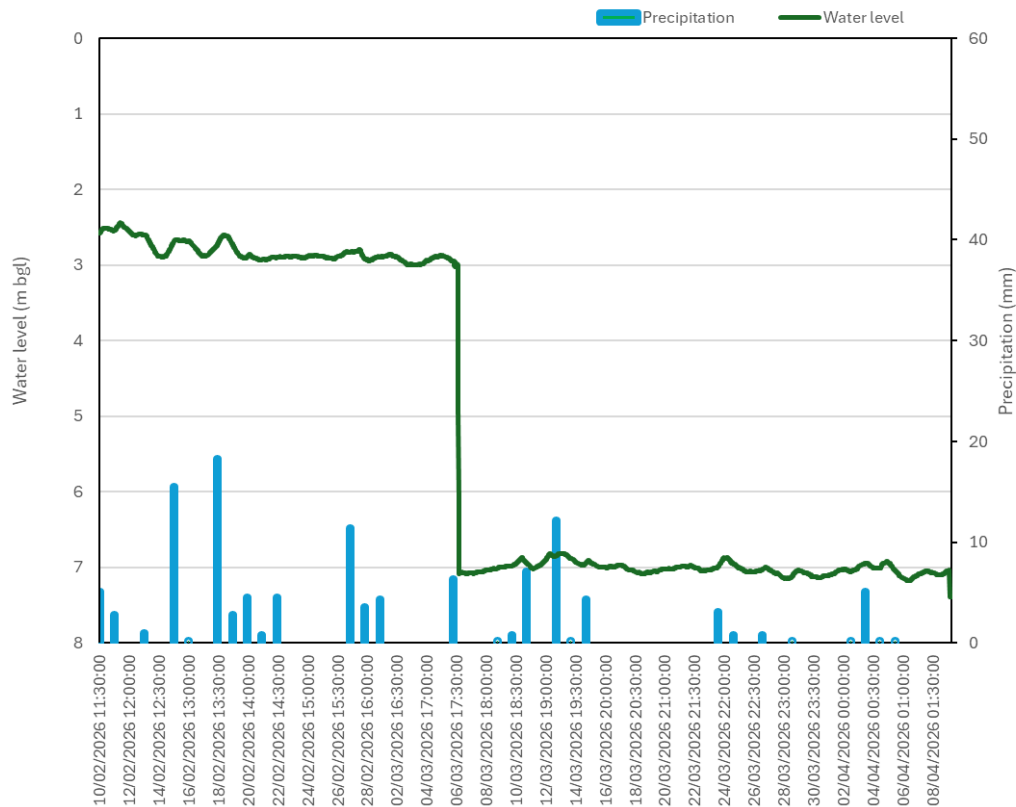


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10th February to 9th April 2026

A large fluctuation in pressure was recorded by the data logger in TP02 on 6th March, as shown in Figure 6. As previously, this large fluctuations in pressure is thought to be a result of settlement the backfilled trial pit. Data has therefore been divided into two, 10th February to 6th March and 6th March to 9th April, presented in Figure 7 and Figure 8 respectively.

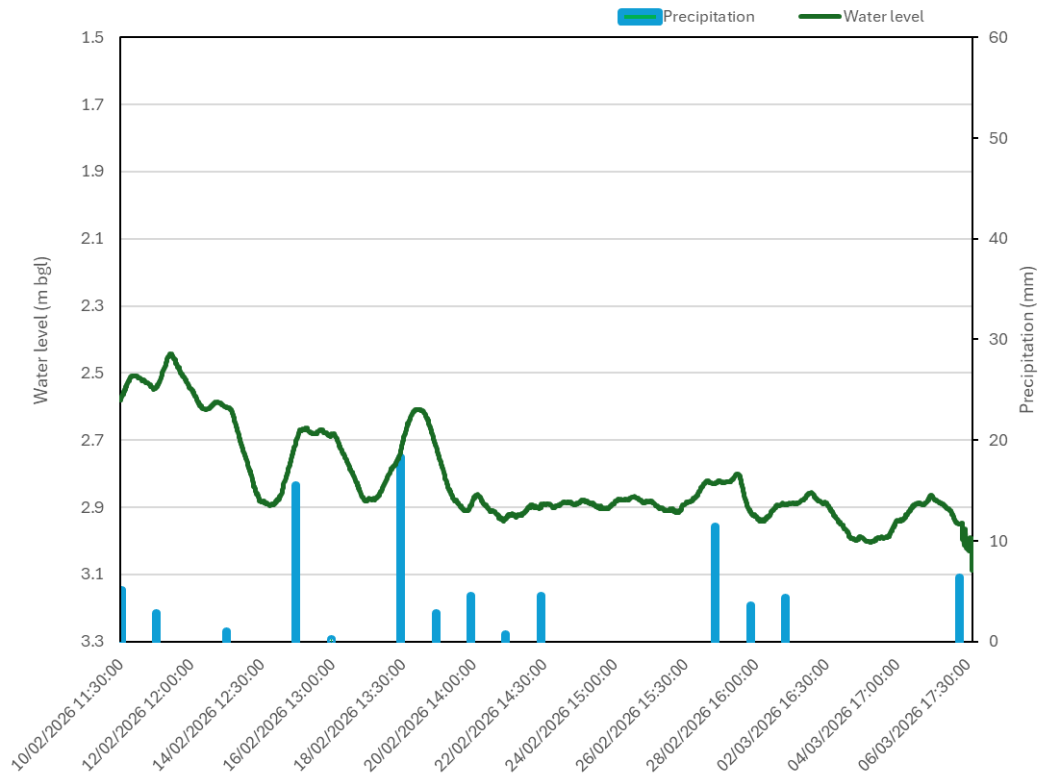
Figure 6 Recovered groundwater water level data (10th February to 9th April)



Groundwater level within the first portion of the monitoring period 10th February to 6th March, shows a gradual decline, corresponding to reduced rainfall. Groundwater level still shows a strong response to rainfall events, with peaks corresponding to high rainfall events.

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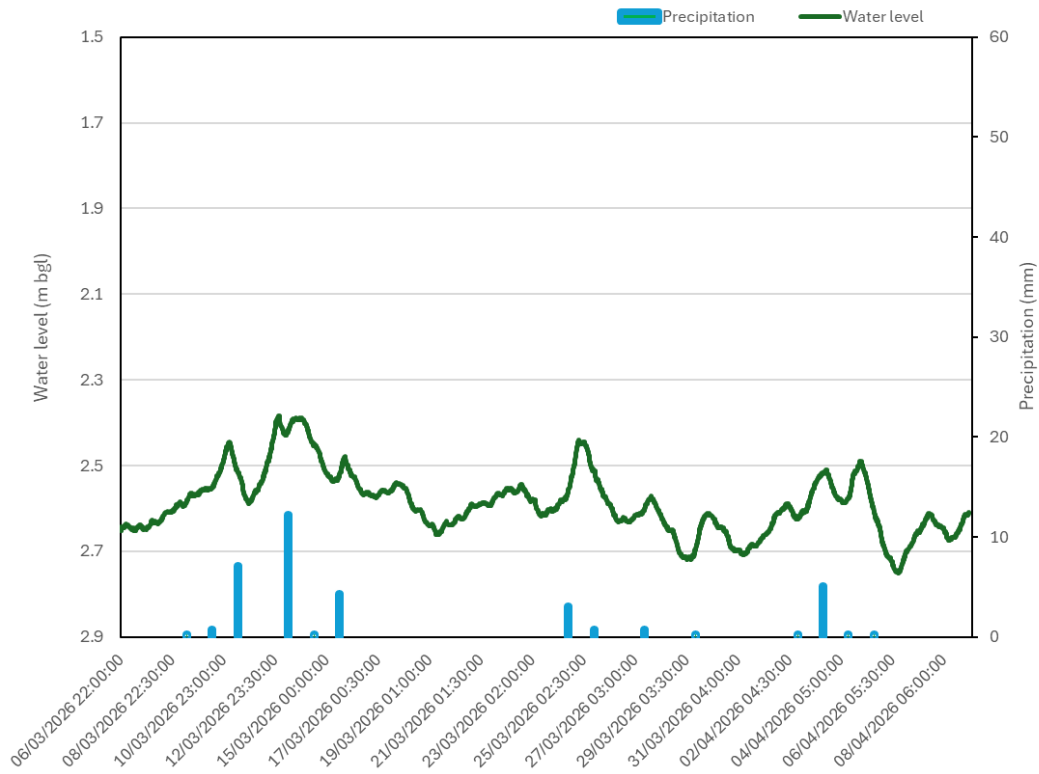
Figure 7 Recorded water level in TP02 (10th February to 6th March)



Groundwater level within the latter portion of the monitoring period 6th March to 9th April remains relatively steady, as a result of low precipitation levels. A gradual increase in groundwater level is recorded through mid-March as a result of several rainfall events, this is then followed by a gradual decline through the remainder of the month.

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Figure 8 Recorded water level in TP02 (6th March to 9th April)



Conclusion

Groundwater levels have remained relatively steady throughout the 6 month monitoring period. The dataloggers record rapid increases in groundwater level in response to high rainfall events, however groundwater levels also show rapid recovery returning to pre-rainfall levels quickly.