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13 May 2026
E24470.G12_Rev7

Anprisa Pty Ltd
40-76 William Street
LEICHHARDT NSW 2040

Groundwater Seepage Analysis
Proposed Residential Development
40-76 William Street, Leichhardt NSW

1 INTRODUCTION

1.1 BACKGROUND

At the request of Anprisa Pty Ltd (the Client), EI Australia (EI) has prepared this Groundwater Seepage Analysis for 40-76 William Street, Leichhardt NSW (the site).

The following documents were used to assist in the preparation of this analysis:

- Survey plan prepared by Total Surveying Solutions – Job No. 192394, Plan No. 192394-1, Sheets 1 to 7 of 7, dated 15 October 2019;
- Architectural drawings prepared by Woods Bagot – Project No. 122105, Drawing No.s SK12098, SK12099, SK-12100, undated;

EI has completed the following relevant reports for the site:

- Geotechnical Investigation (GI) report, Referenced E24770.G03_Rev7, dated 16 October 2025.
- Groundwater Level Monitoring Report No.2, Referenced E24470.G11.GW02, dated 13 May 2026.

The datum in the above documents is in Australian Height Datum (AHD), then all Reduced Levels (RL) mentioned in this report are henceforth in AHD.

Based on the provided documents, EI understands the proposed development involves demolition of the existing structures and construction of six to eleven-storey residential buildings (Buildings A, B, C, D and E) underlying a two-level basement. The lowest basement level is proposed to have a Finished Floor Level (FFL) of RL 3.5 m AHD. A Bulk Excavation Level (BEL) of approximately RL 3.2 m AHD is assumed, which includes allowance for the construction of the basement slab. To achieve the BEL, excavation depths from 5.7 m to 11.1 m Below Existing Ground Level (BEGL) have been estimated. Locally deeper excavations may be required for footings, lift overrun pits, crane pads, and service trenches.

1.2 ASSESSMENT OBJECTIVES

The objective of this GSA is to provide an estimation of the groundwater take volumes that require pumping out during the construction and operational stage of the development, estimation of the groundwater drawdown as a result of the dewatering, and its associated ground settlements (if any).

2 SITE MODEL

2.1 MODELLED SECTIONS

For the purpose of the groundwater take assessment, two cross sections at the middle of the development footprint are considered. Location of these sections is shown in the attached **Figure 1**.

- **Section A-A** runs in the west–east direction to account for the sloping topography. The RL's of the top of the unit on the western side is the RL's of the subsurface conditions encountered in borehole BH9M, while on the eastern side it is based on the RL's of the subsurface conditions encountered in the borehole BH101M.
- **Section B-B** runs in the south–north direction to account for the sloping topography. The RL's of the top of the unit on the southern side is the RL's of the subsurface conditions encountered in boreholes BH1M, while on the northern side it is based on the RL's of the subsurface conditions encountered in boreholes BH3M.

2.2 SUBSURFACE CONDITIONS AND PERMEABILITY

For the purpose of this groundwater seepage analysis, the subsurface conditions outlined in EI's GI report referenced above have been used. For the modelling of these sections, the subsurface conditions encountered in the boreholes (BH1M, BH3M, BH9M, and BH101M) has been generalised from the nearest borehole set at each end of the model section. A summary of adopted subsurface conditions and permeability values are presented in **Table 1** below.

Table 1 Summary of Subsurface Conditions and Adopted Design Parameters

Material [1]	Section A-A		Section B-B		Adopted Permeability (m/s)	$k_{Vertical}/k_{Horizontal}$
	Approximate Average RL of Top of Unit (m AHD) along West [2]	Approximate Average RL of Top of Unit (m AHD) along East [5]	Approximate Average RL of Top of Unit (m AHD) along South[2]	Approximate Average RL of Top of Unit (m AHD) along North[2]		
Fill (Sand)[3]	13.0	8.00	10.0	7.6	1×10^{-5}	1.0
Class V/IV Sandstone [4]	10.80	6.45	6.90	5.20	5×10^{-8}	0.3
Class III Sandstone [5]	8.35	5.72	4.83	4.04	1.02×10^{-7}	0.1

Notes:

1 For more detailed descriptions of subsurface conditions reference should be made to the EI's GI report.
2 Depths and levels presented in **Table 1** above are generalised using the levels from the Geotechnical Investigation across the excavation area for the purpose of groundwater seepage analysis.
3 Permeability values have been correlated for material encountered during the GSA using Look (2014).
4 Permeability values have been correlated for the material encountered during the GSA using Pells (2019).
5 Average permeability value of the class III sandstone bedrock was calculated based on the average of the permeability values calculated in the boreholes BH3M and BH101M from the rising head tests as discussed in **Section 2.3**.

2.3 GROUNDWATER OBSERVATIONS AND PUMP OUT TESTS

EI carried out the rising head tests on 7 September 2021, 22 August 2025 and 25 November 2025 within the monitoring wells (BH3M, BH9M and BH101M). Further to the completion of rising head tests on 22 August 2025, data loggers were installed in the groundwater monitoring wells (BH3M, BH9M and BH101M) for long-term groundwater monitoring. EI had visited the site on 25 November 2025 to download the data from the data loggers and decommission them. The details of the rising head tests are presented in the **Table 2**. Results are presented graphically in **Appendix B**. The summary of the groundwater levels recorded during the monitoring period from 22 August 2025 to 25 November 2025 are shown in **Table 3**. The full report of this continuous groundwater levels from Groundwater Level Monitoring Report No.2 is provided in **Appendix C**.

Table 2 Monitoring Well Details and Pump Out Test Results

Monitoring Well/ Test ID	Well Depth (m BEGL)	Screen Length (m)	Screened Section	Date of Test	Approximate RL of Groundwater Level (m AHD)	Estimated Permeability (m/s)
BH3M	10.2	6	Class III medium to high strength Sandstone	22-Aug-25	3.40	7.90x10^{-8}
				25–Nov-25	3.30	5.50x10^{-8}
BH9M	9.4	6	Class III medium to high strength Sandstone	7-Sep-21	7.63	6.0x10^{-9}
				22-Aug-25	9.56	1.30x10^{-8}
				25–Nov-25	8.38	8.0x10^{-9}
BH101M	8.0	3	Class III medium to high strength Sandstone	22-Aug-25	6.35	2.30x10^{-7}
				25–Nov-25	6.27	1.40x10^{-7}
BH1M	11.2	76	Class III medium to high strength Sandstone	22-Aug-25	5.1	-

Table 3 Summary of Groundwater Levels from the Long-term Groundwater Monitoring

Monitoring Well ID	Average Groundwater RL (m AHD)	Approximate Highest RL of Groundwater Level (m AHD)	Approximate Lowest RL of Groundwater Level (m AHD)
BH3M	3.53	3.87	3.24
BH9M	8.82	9.58	8.16
BH101M	6.52	6.66	6.29

Based on the measured groundwater levels above, the following design groundwater levels (GWL) for each section have been adopted for this analysis:

- **Section A-A (along west-east):** Design GWL of RL 10.6 m AHD and RL 7.7 m AHD has been adopted for the west and east sides, respectively. These values have considered possible seasonal variation of 1.0 m above the highest water tables encountered in BH9M & BH101M on the west side and east side, respectively.
- **Section B-B (along south-north):** Design GWL of RL 6.1 m AHD and RL 4.9 m AHD has been adopted for the south and north sides, respectively. These values have considered possible seasonal variation of 1.0 m above the highest water tables encountered in from the long-term groundwater monitoring in BH1M on the south side and measured groundwater levels encountered in BH3M on the north side respectively. Since there are no subsurface conditions or groundwater level data available along the southern boundary, the data from borehole/monitoring well BH1M, which is at the south eastern side of the site have been used to represent the southern portion of the site in this model.

2.4 MAXIMUM EXTENT OF THE CONE OF DEPRSSION

The estimated maximum extent of the cone of depression has been determined using Sichardt's Formula, as follows:

$$R = 3000\,(H - h)\sqrt{k}$$

where:

- R = Maximum extent of the cone of depression (m).
- H = Highest design groundwater level (m).
- h = Estimated groundwater level at the BEL due to full duration of dewatering (m).
- k = Hydraulic conductivity of the aquifer (m/s).

The coefficient of 3000 is based on empirical observations, predominantly for sandy aquifers. The lowest coefficient outlined in Sichardt's formula is approximately 1000, which would result in a smaller radius of influence. Therefore, using a coefficient of 3000 in this case is considered conservative.

Based on the formula above, the maximum extent of cone of depression is calculated to be less than 10 m except towards the eastern site boundary. Hence so we have conservatively assumed a cone of depression of 30 m from the boundaries along the western, southern and northern site boundaries. The cone of depression along the eastern site boundary is calculated to be 40 m approximately. This extent has been adopted in the numerical model as a distance from the basement perimeter to the constant head boundary.

2.5 SHORING SYSTEM

At the time of this assessment, no detailed shoring designs were available. Based on the geotechnical investigation report referenced above, it is assumed that the shoring system may be comprised of soldier pile wall. Therefore the shoring system is modelled as permeable shoring system and is freely allowable to drain water.

This assessment does not assess the overall stability and embedment depth of the shoring system. Once final designs are made available, this assessment should be revised accordingly.

3 GROUNDWATER TAKE ASSESSMENT

3.1 GROUNDWATER SEEPAGE VOLUMES DURING CONSTRUCTION PHASE

Groundwater seepage analysis for flow into the proposed basement excavation during construction has been undertaken using PLAXIS 2D, a finite element groundwater seepage analysis software. PLAXIS 2D estimates the seepage rate of water entering the excavation from through and beneath the shoring wall. This model estimates the volume of water which will be required to be dewatered during the construction of the basement and until the dewatering is turned off.

EI notes that given the consistent subsurface conditions across the site comprising of fill, residual soil overlying the sandstone bedrock, we are of the opinion that PLAXIS 2D is appropriate for the site.

For the purpose of this modelling, it has been assumed that:

- The subsurface conditions were assumed to be horizontal outside the site boundaries. The permeability values presented in **Table 1** above were adopted for each unit.
- The design groundwater levels as provided at **Section 2.3** of this report were assumed to be constant at 30 m to 40 m away from the shoring wall as outlined in the **Section 2.4** of this report.
- As the basement width is varying along the site, for the purpose of this assessment the model is modelled based on the average width of the Section A-A is calculated to be 60 m. The width of the Section B-B is calculated to be 90 m approximately.
- For the simplicity of this model, temporary dewatering will be undertaken within the basement retaining wall perimeter to the BEL of RL 3.2 m AHD.

The PLAXIS 2D model is presented in **Appendix A**. **Table 4** below provides the estimated groundwater inflow rate into the basement for each Scenario.

Table 4 Summary of Analysis Results

Shoring System	Inflow per m length of perimeter wall (m^3/day)	Inflow into excavation (m^3/day)	Total Inflow during construction (ML/365 days)
Soldier Pile Wall System (Section A-A)	4.28×10^{-2}	3.85	1.40
Soldier Pile Wall System (Section B-B)	1.42×10^{-2}	0.85	0.31
		Total	1.71

3.2 ASSESSMENT OF GROUNDWATER TAKE DURING OPERATIONAL PHASE

A drained basement using sub-soil drainage and a sump-and-pump system was assumed. Therefore, the estimated volume of groundwater removed beneath the basement during the operation stage of the development will be same as the volume of water calculated during the construction stage of the development which is 1.71 ML.

3.3 GROUNDWATER DRAWDOWN AND DRAWDOWN INDUCED SETTLEMENT

EI have completed a settlement analysis using PLAXIS 2D to estimate the potential drawdown-induced settlements as a result of the above predicted drawdown. The predicted drawdown over the zone of influence and settlement is shown in Table 5. The predicted drawdown may serve as the predetermined groundwater level for monitoring during construction.

Table 5 Predicted Ground Settlement due to Groundwater Drawdown

Shoring system	Maximum Drawdown (m)	Ground settlement (mm)
Soldier Pile Wall (Section A-A)	5.5	<1
Soldier Pile Wall (Section B-B)	2.6	<1

The maximum ground settlements outside the proposed basement footprint due to the dewatering are estimated to be less than 1 mm and are considered to be a 'Negligible' risk in regards to category of damage risk due to dewatering, as defined in Cashman and Preene (2021), as shown in the excerpt in **Plate 1**. It should be noted that this predicted settlement accounts **only for water drawdown** and does not consider other factors, such as shoring wall deflection, surcharge loading, and other construction-related influences.

Although the PLAXIS 2D modelling provides predicted drawdown-induced ground settlement values, it would be prudent for a thorough assessment of potential risks posed on neighbouring structures to be completed by a qualified and experienced structural engineer.

Risk category [a]	*Maximum settlement (mm)* [b]	*Building tilt* [c]	*Anticipated effects*
Negligible	<10	<1/500	Superficial damage unlikely
Slight	10–50	1/500–1/200	Possible superficial damage; unlikely to have structural significance
Moderate	50–75	1/200–1/50	Expected superficial damage and possible structural damage to buildings; possible damage to rigid pipelines
Severe	75	>1/50	Expected structural damage to buildings and expected damage to rigid pipelines or possible damage to other pipelines

Source: Preene, M., *Proceedings of the Institution of Civil Engineers—Geotechnical Engineering*, 143(4), 177–190, 2000. With permission.

[a] The risk category is to be based on the more severe of the settlement or tilt criteria.
[b] Maximum settlement is based on the nearest edge of the structure to the groundwater control system.
[c] Tilt is based on rigid body rotation, assuming that all of the maximum settlement occurs as differential settlement across the width of the structure or across an element of the structure.

Plate 1 Excerpt from Cashman and Preene (2021)

4 CONCLUSIONS AND COMMENTS

Based on the findings of this report and within the limitations of available data, EI concludes that:

- The construction and operational phases of the proposed development, the groundwater take was calculated to be 1.71 ML approximately.
- The above estimate is based on the following assumptions:
  - The shoring wall system is an fully drained retention system;
  - Continuous dewatering in order to maintain the groundwater at a depth of BEL during construction;
  - The basement walls and slab will be designed as drained structure for the development lifetime.
  - This assessment does not take into consideration any excavation that may be required for footings, service trenches, lift pits, or crane pads. This additional excavation, if required, is not expected to affect the retention or the dewatering system.
- The ground settlements resulting from the predicted groundwater drawdowns outside the basement boundary are estimated to be less than 1 mm. This level of settlement is considered to pose the ‘negligible’ risk category for damage risk resulting from ground settlement due to dewatering, as per Cashman and Preene (2021). It would be prudent for potential risks to neighbouring structures to be assessed by a qualified and experienced structural engineer.

Should any design or construction conditions differ from that adopted in this report; this GSA should be reviewed and updated as required.

5 LIMITATIONS

This report has been prepared for the exclusive use of Anprisa Pty Ltd who is the only intended beneficiary of EI's work. The scope of the inspections carried out for the purpose of this report is limited to those agreed with Anprisa Pty Ltd.

No other party should rely on the document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

EI has used a degree of care and skill ordinarily exercised in similar tasks by reputable members of the geotechnical industry in Australia as at the date of this document. No other warranty, expressed or implied, is made or intended. Each section of this report must be read in conjunction with the whole of this report, including its appendices and attachments.

The conclusions presented in this report are based on a limited assessment of conditions, with specific locations chosen to be as representative as possible under the given circumstances.

EI's professional opinions are reasonable and based on its professional judgment, experience, training and results from analytical data. EI may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified by EI.

EI's professional opinions contained in this document are subject to modification if additional information is obtained through further investigation, observations, or validation testing and analysis during remedial activities. In some cases, further testing and analysis may be required, which may result in a further report with different conclusions.

6 CLOSURE

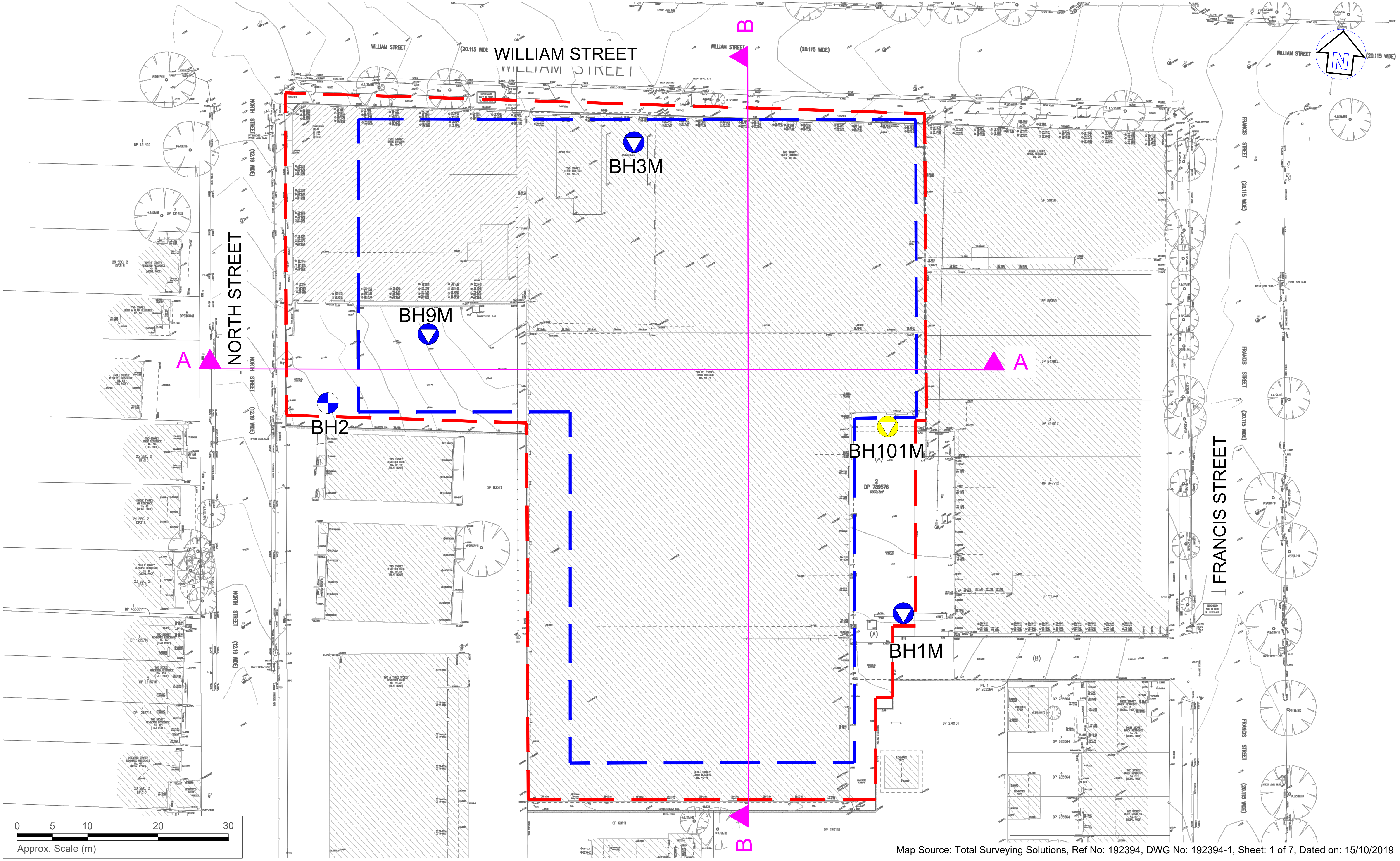
Please do not hesitate to contact the undersigned should you have any questions.

For and on behalf of
EI Australia

Author	**Technical Reviewer**
Gokul Pothineni **Geotechnical Engineer**	**Huu Dang** **Principal Design Engineer**

Figure 1 – Analysed Section Plan
Appendix A – PLAXIS 2D Model and Results of Analysed Sections
Appendix B– Rising Head Tests
Appendix C – Long-Term Groundwater Monitoring
Appendix D – Important Information

Figures



LEGEND

- Approximate site boundary
- Approximate basement boundary
- Approximate previous borehole location (EI, 2022)
- Approximate previous borehole/monitoring well location (EI, 2022)
- Approximate additional borehole/monitoring well location (EI, 2025)

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Drawn:	G.P.
Approved:	H.D
Date:	15/10/25

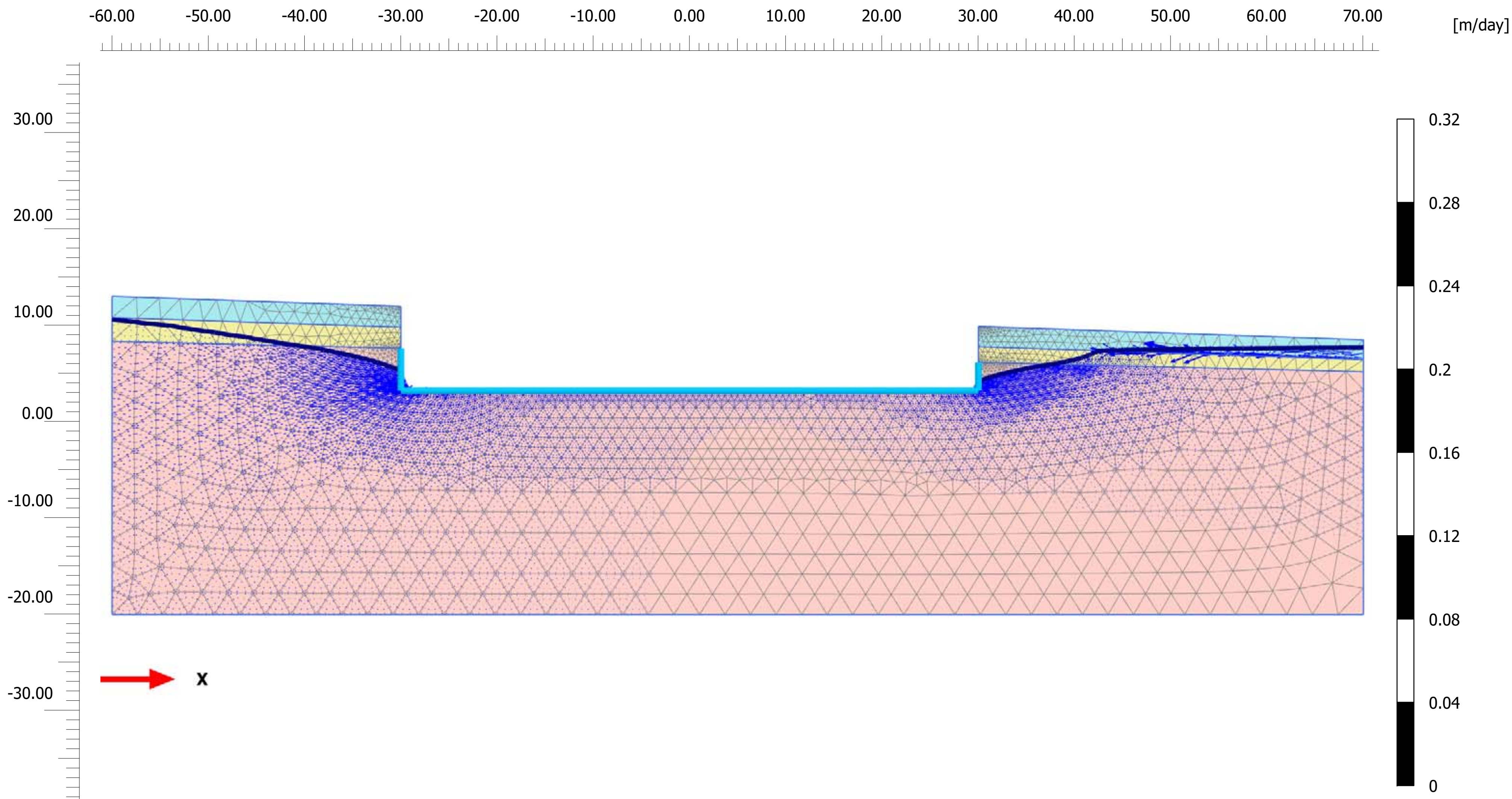
Ceerose Pty Ltd
Groundwater Seepage Analysis
40-76 William Street, Leichhardt NSW
Borehole Location Plan

Figure: 2

Project: E24470.G12_Rev5

Appendix A – PLAXIS 2D Model and Results (Section A-A)

Output Version 2024.2.0.1144



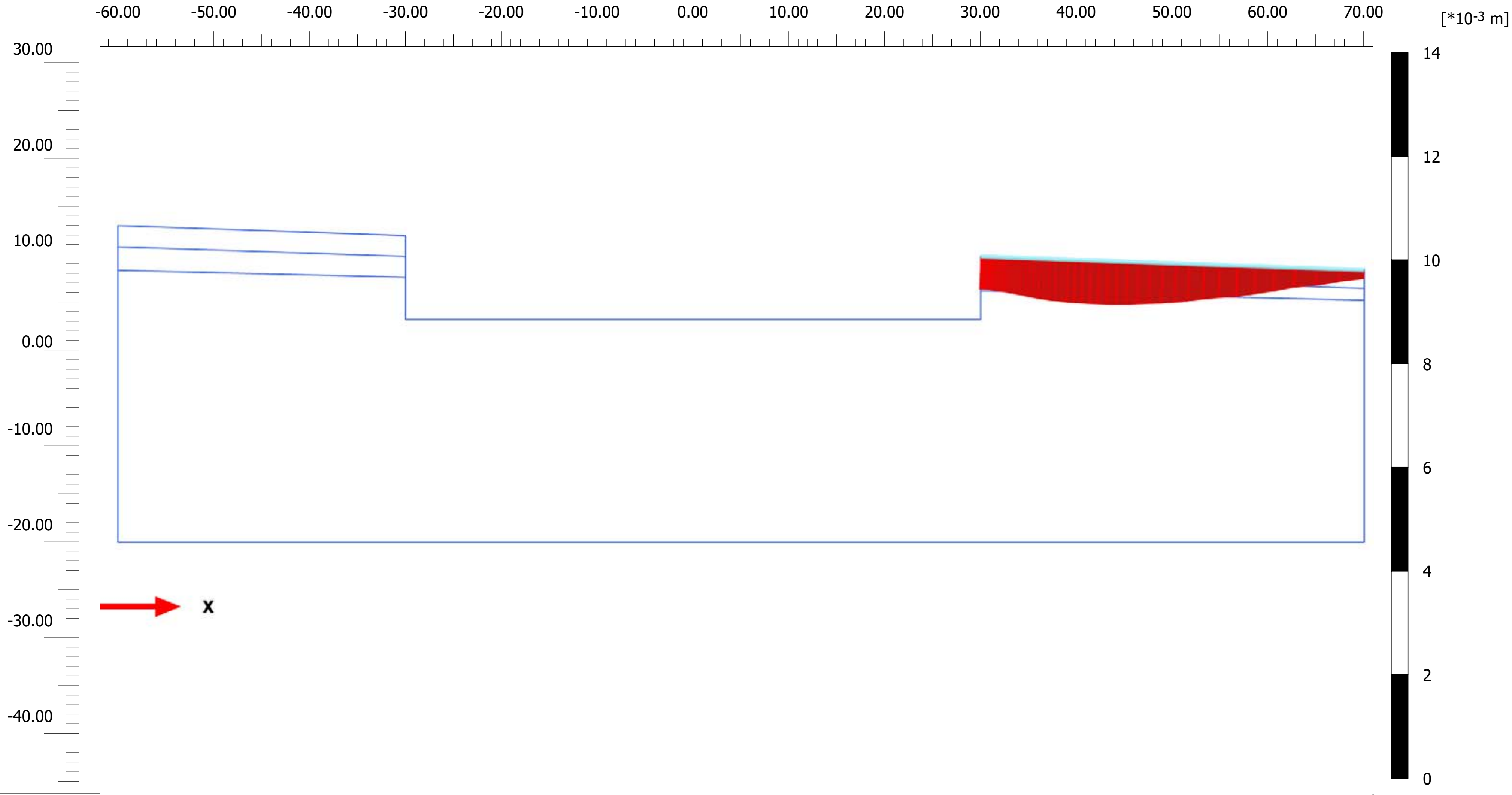
Groundwater flow |q| (scaled up 200 times)

Maximum value = 0.02680 m/day (Element 3158 at Stress point 37886)

Minimum value = $9.469*10^{-9}$ m/day (Element 3353 at Stress point 40225)

Project description	Date
E24470.G12	13/05/2026

Project filename	Step	Company
E24470.G12 Setion A-A_Rev1	8	EI Australia

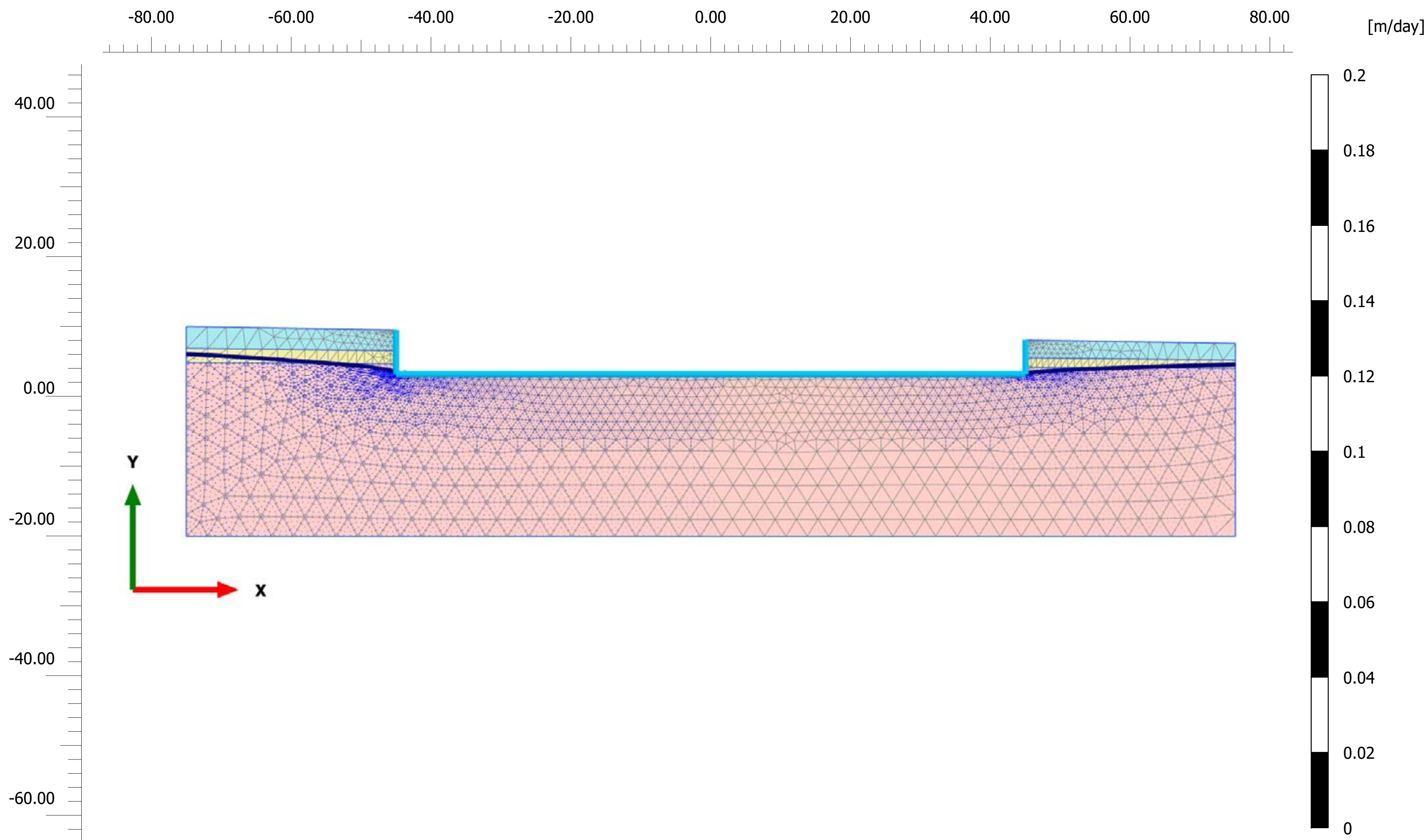


Total displacements u_y (scaled up $5.00*10^3$ times)

Maximum value = $-0.1833*10^{-3}$ m

Minimum value = $-0.9082*10^{-3}$ m

Project description E24470.G12			*Date* 13/05/2026
Project filename E24470.G12 Setion A-A_Rev1	*Step* 8	*Company* EI Australia	



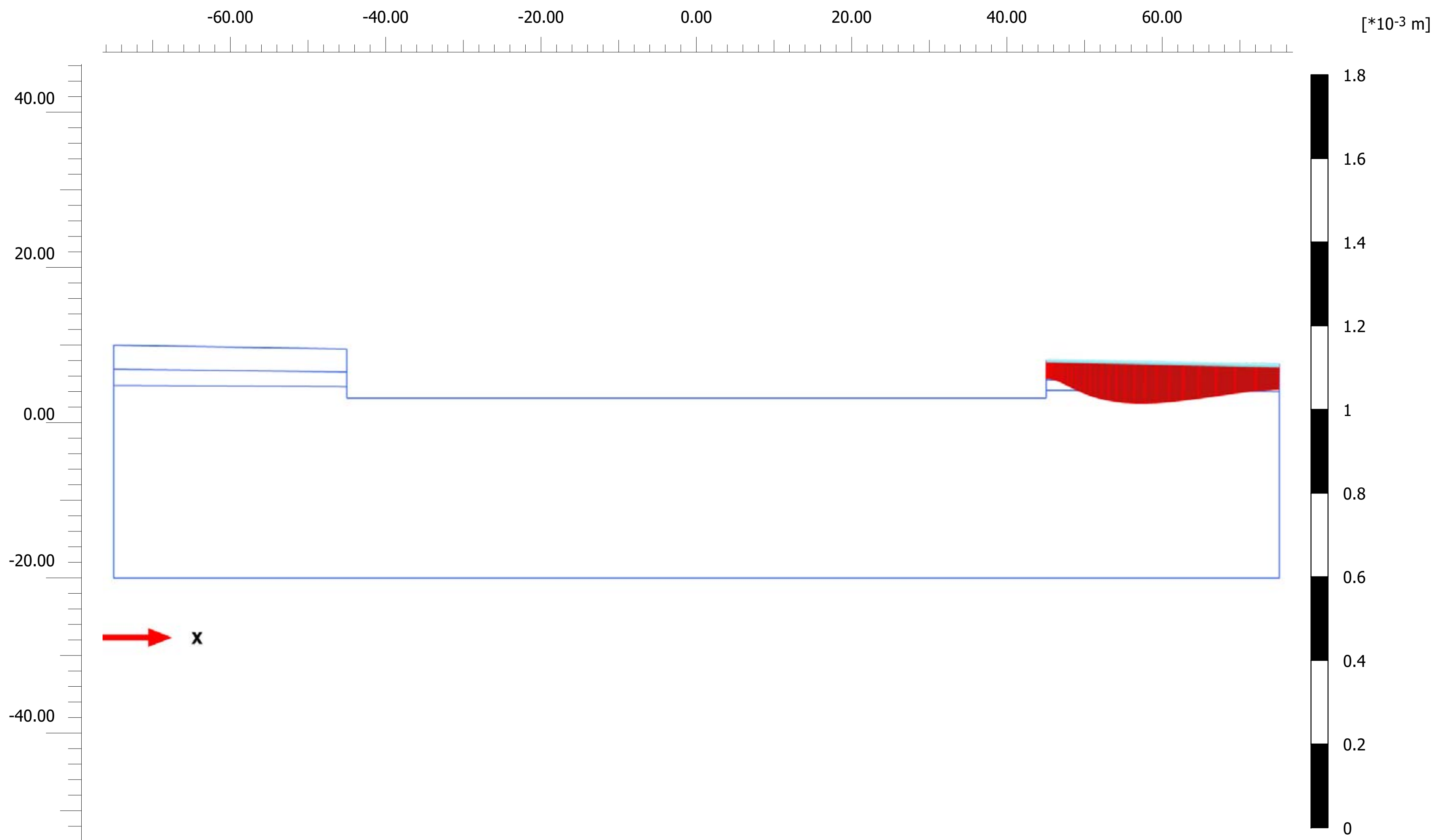
Groundwater flow |q| (scaled up 500 times)

Maximum value = $7.491*10^{-3}$ m/day (Element 7138 at Stress point 85645)

Minimum value = $3.740*10^{-9}$ m/day (Element 4451 at Stress point 53401)

Project description E24470.G12			*Date* 13/05/2026
Project filename E24470.G12 Setion B_B_ ...	*Step* 6	*Company* EI Australia	

Output Version 2024.2.0.1144



Total displacements u_y (scaled up $50.0*10^3$ times)

Maximum value = $-0.04619*10^{-3}$ m

Minimum value = $-0.1048*10^{-3}$ m

Project description		Date
E24470.G12		13/05/2026

Project filename	Step	Company
E24470.G12 Setion B_B_ ...	6	EI Australia

Appendix B – Rising Head Tests

Rising Head Permeability Test

EI Job No.	E24470		Test Date	22/08/2025
By	LL		Location	

Borehole Detail

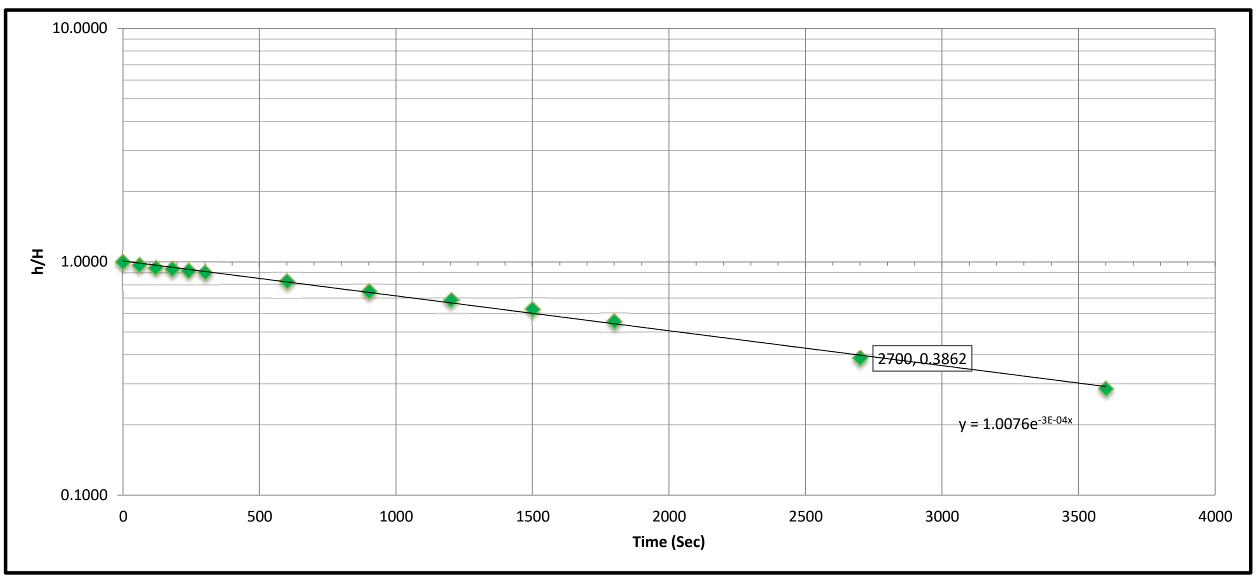
BH No.	BH3M	
Casing Stick-up (m)	-0.1	
Effective Piezo Screen Length (m)	6	
Piezo Radius r (m)	0.025	
Bore radium (Auger Radius) (m)	0.038	auger radius = 0.05; core radius is 0.038
Depth of the piezometer (m BGL)	10.2	
Static Water Level (m BToC)	4.6	
Lag time T0 (sec)	3338.97	
Calculated Permeability k	**7.90E-08**	m/sec

Based on Hvorslev Method

$$k = \frac{r^2}{2L} \ln\left(\frac{L}{R}\right)\left[\frac{\ln h_1/h_2}{t_2 - t_1}\right]$$

3.40

Time (mins)	Time (sec)	Depth to water (ft BToC)	Depth to water (m BToC)	Change in Level (m)	h/H
Static			4.60		
0	0		7.5	2.90	1.0000
1	60		7.42	2.82	0.9724
2	120		7.35	2.75	0.9483
3	180		7.31	2.71	0.9345
4	240		7.27	2.67	0.9207
5	300		7.22	2.62	0.9034
10	600		7	2.40	0.8276
15	900		6.77	2.17	0.7483
20	1200		6.59	1.99	0.6862
25	1500		6.42	1.82	0.6276
30	1800		6.21	1.61	0.5552
45	2700		5.72	1.12	0.3862
60	3600		5.43	0.83	0.2862



Rising Head Permeability Test

EI Job No.	E24470		Test Date	22/08/2025
By	LL		Location	

Borehole Detail

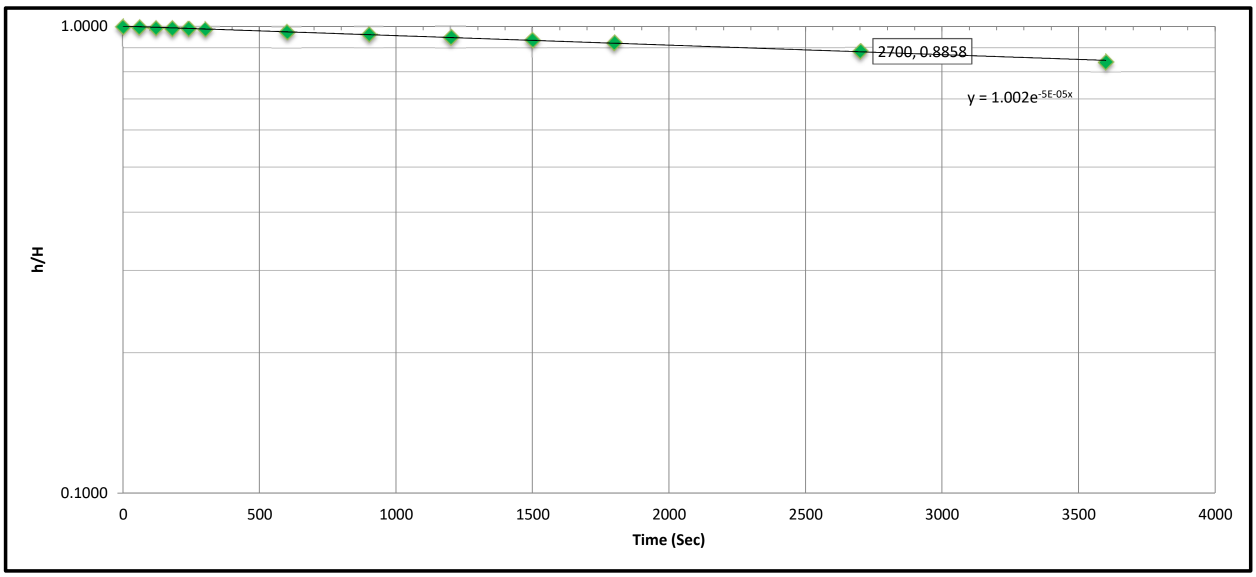
BH No.	BH9M	
Casing Stick-up (m)	-0.1	
Effective Piezo Screen Length (m)	6	
Piezo Radius r (m)	0.025	
Bore radium (Auger Radius) (m)	0.038	auger radius = 0.05; core radius is 0.038
Depth of the piezometer (m BGL)	9.4	
Static Water Level (m BToC)	2.34	
Lag time T0 (sec)	19914.30	
Calculated Permeability k	**1.30E-08**	m/sec

Based on Hvorslev Method

$$K = \frac{r^2 \ln(L/R)}{2LT_o}$$

9.56

Time (mins)	Time (sec)	Depth to water (ft BToC)	Depth to water (m BToC)	Change in Level (m)	h/H
Static			2.34		
0	0		9.08	6.74	1.0000
1	60		9.06	6.72	0.9970
2	120		9.04	6.70	0.9941
3	180		9.03	6.69	0.9926
4	240		9.01	6.67	0.9896
5	300		8.99	6.65	0.9866
10	600		8.91	6.57	0.9748
15	900		8.83	6.49	0.9629
20	1200		8.74	6.40	0.9496
25	1500		8.66	6.32	0.9377
30	1800		8.57	6.23	0.9243
45	2700		8.31	5.97	0.8858
60	3600		8.00	5.66	0.8398



Rising Head Permeability Test

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EI Job No.	E24470		Test Date	7/09/2025
By	LL		Location	

Borehole Detail

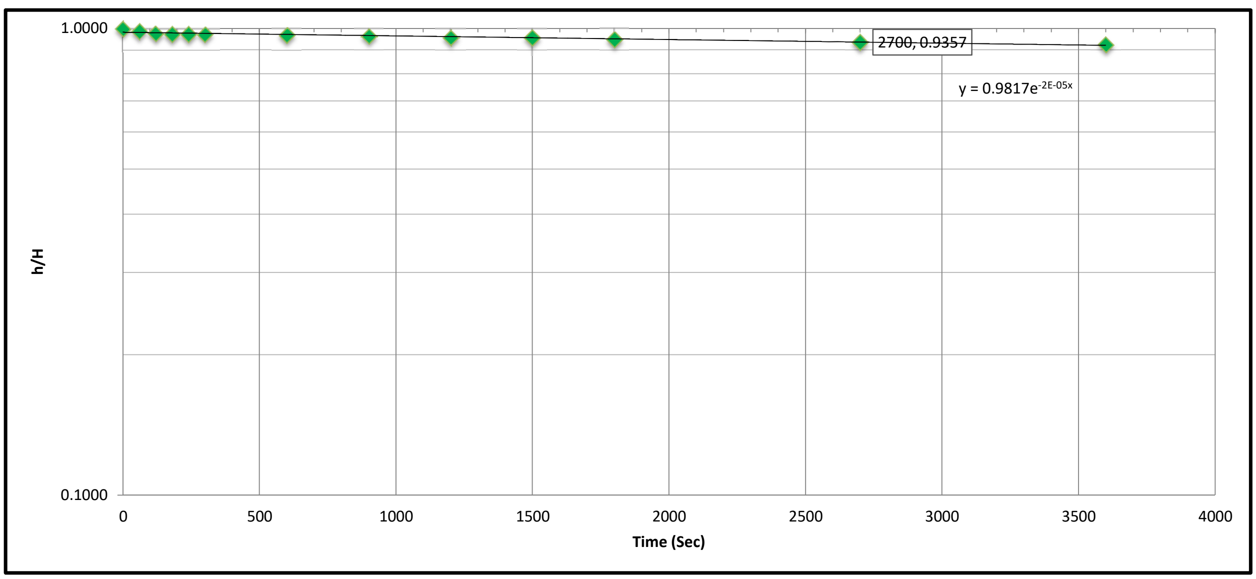
BH No.	BH9M	
Casing Stick-up (m)	-0.1	
Effective Piezo Screen Length (m)	5.1	
Piezo Radius r (m)	0.025	
Bore radium (Auger Radius) (m)	0.038	auger radius = 0.05; core radius is 0.038
Depth of the piezometer (m BGL)	9.4	
Static Water Level (m BToC)	4.27	
Lag time T0 (sec)	48777.09	
Calculated Permeability k	**6.00E-09**	m/sec

Based on Hvorslev Method

$$K = \frac{r^2 \ln(L/R)}{2LT_o}$$

7.63

Time (mins)	Time (sec)	Depth to water (ft BToC)	Depth to water (m BToC)	Change in Level (m)	h/H
Static			4.27		
0	0		9.4	5.13	1.0000
1	60		9.33	5.06	0.9864
2	120		9.28	5.01	0.9766
3	180		9.26	4.99	0.9727
4	240		9.26	4.99	0.9727
5	300		9.26	4.99	0.9727
10	600		9.24	4.97	0.9688
15	900		9.21	4.94	0.9630
20	1200		9.18	4.91	0.9571
25	1500		9.18	4.91	0.9571
30	1800		9.13	4.86	0.9474
45	2700		9.07	4.80	0.9357
60	3600		9.01	4.74	0.9240



Rising Head Permeability Test

EI Job No.	E24470		Test Date	25/11/2025
By	LL		Location	

Borehole Detail

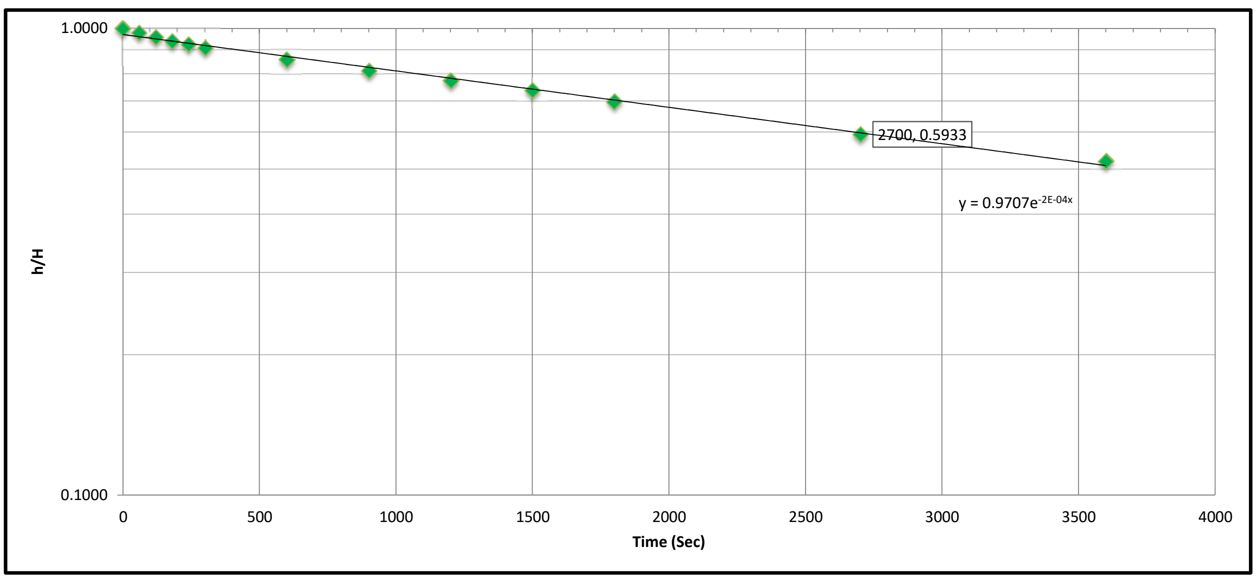
BH No.	BH3M	
Casing Stick-up (m)	-0.1	
Effective Piezo Screen Length (m)	6	
Piezo Radius r (m)	0.025	
Bore radium (Auger Radius) (m)	0.038	auger radius = 0.05; core radius is 0.038
Depth of the piezometer (m BGL)	10.2	
Static Water Level (m BToC)	4.7	
Lag time T0 (sec)	4820.48	
Calculated Permeability k	**5.50E-08**	m/sec

Based on Hvorslev Method

$$k = \frac{r^2}{2L} \ln\left(\frac{L}{R}\right)\left[\frac{\ln h_1/h_2}{t_2 - t_1}\right]$$

3.30

Time (mins)	Time (sec)	Depth to water (ft BToC)	Depth to water (m BToC)	Change in Level (m)	h/H
Static			4.70		
0	0		7.97	3.27	1.0000
1	60		7.9	3.20	0.9786
2	120		7.83	3.13	0.9572
3	180		7.77	3.07	0.9388
4	240		7.72	3.02	0.9235
5	300		7.68	2.98	0.9113
10	600		7.51	2.81	0.8593
15	900		7.36	2.66	0.8135
20	1200		7.23	2.53	0.7737
25	1500		7.11	2.41	0.7370
30	1800		6.98	2.28	0.6972
45	2700		6.64	1.94	0.5933
60	3600		6.40	1.70	0.5199



Rising Head Permeability Test

EI Job No.	E24470		Test Date	25/11/2025
By	LL		Location	

Borehole Detail

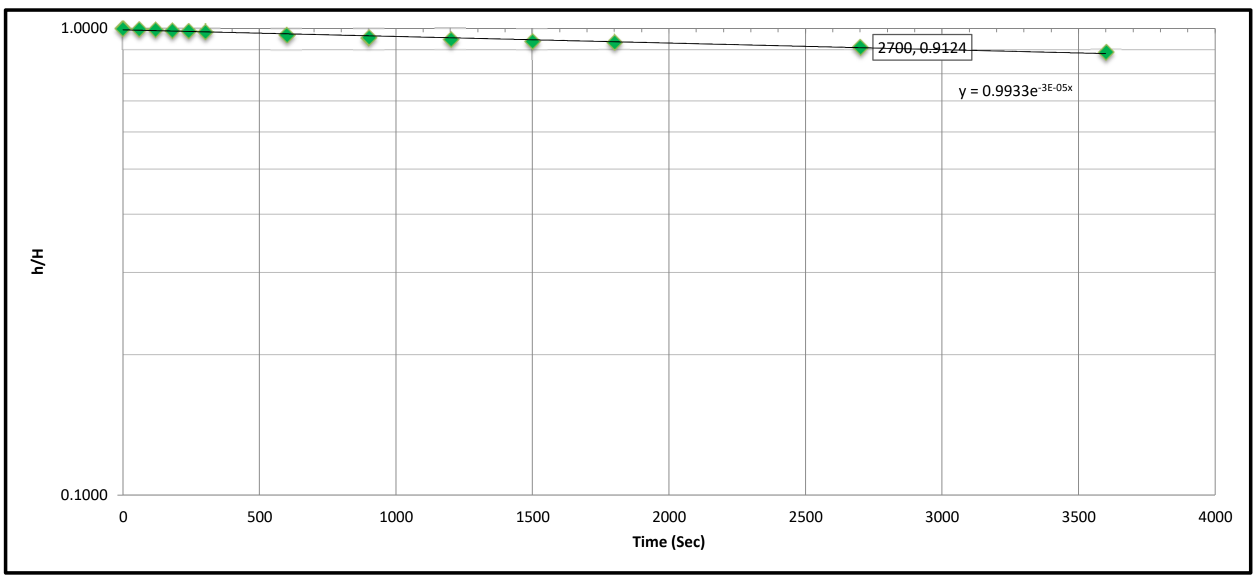
BH No.	BH9M	
Casing Stick-up (m)	-0.1	
Effective Piezo Screen Length (m)	6	
Piezo Radius r (m)	0.025	
Bore radium (Auger Radius) (m)	0.038	auger radius = 0.05; core radius is 0.038
Depth of the piezometer (m BGL)	9.4	
Static Water Level (m BToC)	3.52	
Lag time T0 (sec)	32916.14	
Calculated Permeability k	**8.00E-09**	m/sec

Based on Hvorslev Method

$$K = \frac{r^2 \ln(L/R)}{2LT_o}$$

8.38

Time (mins)	Time (sec)	Depth to water (ft BToC)	Depth to water (m BToC)	Change in Level (m)	h/H
Static			3.52		
0	0		9.23	5.71	1.0000
1	60		9.21	5.69	0.9965
2	120		9.19	5.67	0.9930
3	180		9.17	5.65	0.9895
4	240		9.16	5.64	0.9877
5	300		9.14	5.62	0.9842
10	600		9.06	5.54	0.9702
15	900		8.98	5.46	0.9562
20	1200		8.93	5.41	0.9475
25	1500		8.89	5.37	0.9405
30	1800		8.85	5.33	0.9335
45	2700		8.73	5.21	0.9124
60	3600		8.60	5.08	0.8897



Rising Head Permeability Test

EI Job No.	E24470		Test Date	25/11/2025
By	LL		Location	BH101M

Borohole Detail

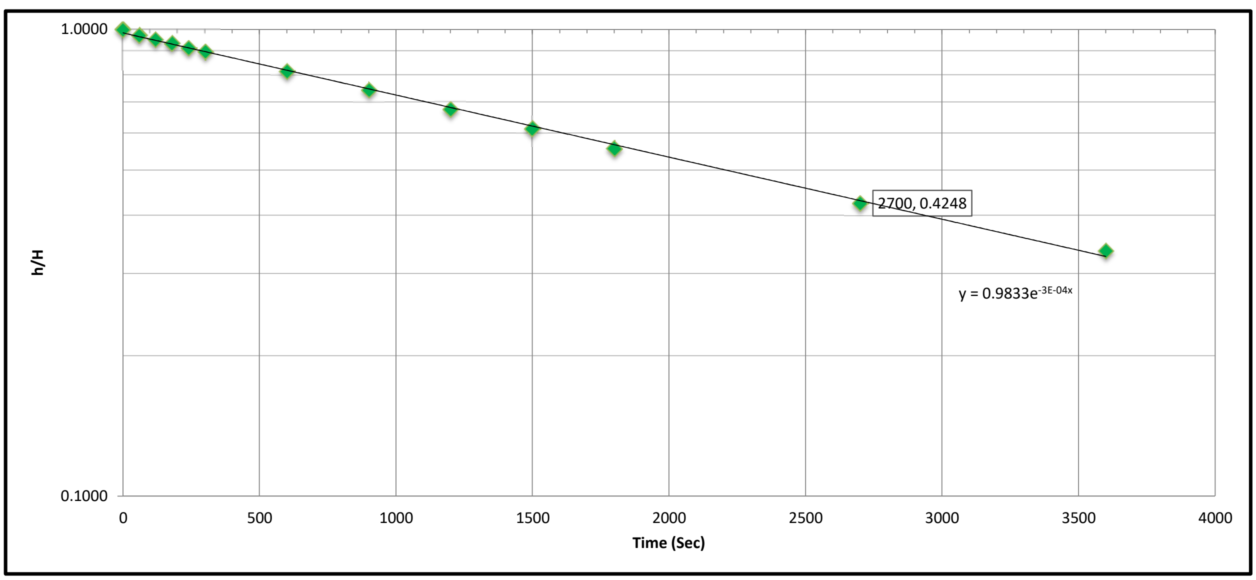
BH No.	BH101M	
Casing Stick-up (m)	-0.1	
Effective Piezo Screen Length (m)	3	
Piezo Radius r (m)	0.025	
Bore radium (Auger Radius) (m)	0.038	auger radius = 0.05; core radius is 0.038
Depth of the piezometer (m BGL)	8	
Static Water Level (m BToC)	2.38	
Lag time T0 (sec)	3257.90	
Calculated Permeability k	**1.40E-07**	m/sec

Based on Hvorslev Method

$$K = \frac{r^2 \ln(L/R)}{2LT_o}$$

6.27

Time (mins)	Time (sec)	Depth to water (ft BToC)	Depth to water (m BToC)	Change in Level (m)	h/H
Static			2.38		
0	0		7.63	5.25	1.0000
1	60		7.48	5.10	0.9714
2	120		7.38	5.00	0.9524
3	180		7.28	4.90	0.9333
4	240		7.18	4.80	0.9143
5	300		7.09	4.71	0.8971
10	600		6.66	4.28	0.8152
15	900		6.28	3.90	0.7429
20	1200		5.92	3.54	0.6743
25	1500		5.6	3.22	0.6133
30	1800		5.3	2.92	0.5562
45	2700		4.61	2.23	0.4248
60	3600		4.14	1.76	0.3352



Appendix C – Long-term Groundwater Monitoring

Suite 6.01, 55 Miller Street
PYRMONT NSW 2009
www.eiaustralia.com.au
02 9516 0722

13 May 2026
E24470.G11.GW02

Anprisa Pty Ltd
447 Parramatta Road
LEICHHARDT NSW

Groundwater Level Monitoring Report No. 2
46 -76 William Street Leichhardt NSW

EI Australia (EI) has been engaged to prepare this factual letter report to provide continual groundwater levels at the above site. The monitoring period in this report is from Friday 22 August 2025 to Tuesday 25 November 2025.

Groundwater levels were collected using data loggers installed within monitoring wells. The data logger / monitoring well details and the groundwater levels observed during the monitoring period are summarised in Table 1 & 2 below.

Table 1 Summary of Data Logger & Well Installation Details

Monitoring Well ID	Top of Well RL (mAHD)	Existing Ground RL (mAHD)	Well Stickup (m)	Well Depth Below Ground (m) [1]	Sensor RL (mAHD)
BH101M	8.65	8.75	-0.10	8.00	0.75
BH3M	8.00	8.10	-0.10	8.20	0.30
BH9M	11.90	12.00	-0.10	9.40	3.40

Note 1: The level of the bottom of the well is based on manual measurements after the well installation. The measurement accounts for any variation of the well depth caused by infilling of material through the well screen.

Table 2 Summary of Groundwater Levels

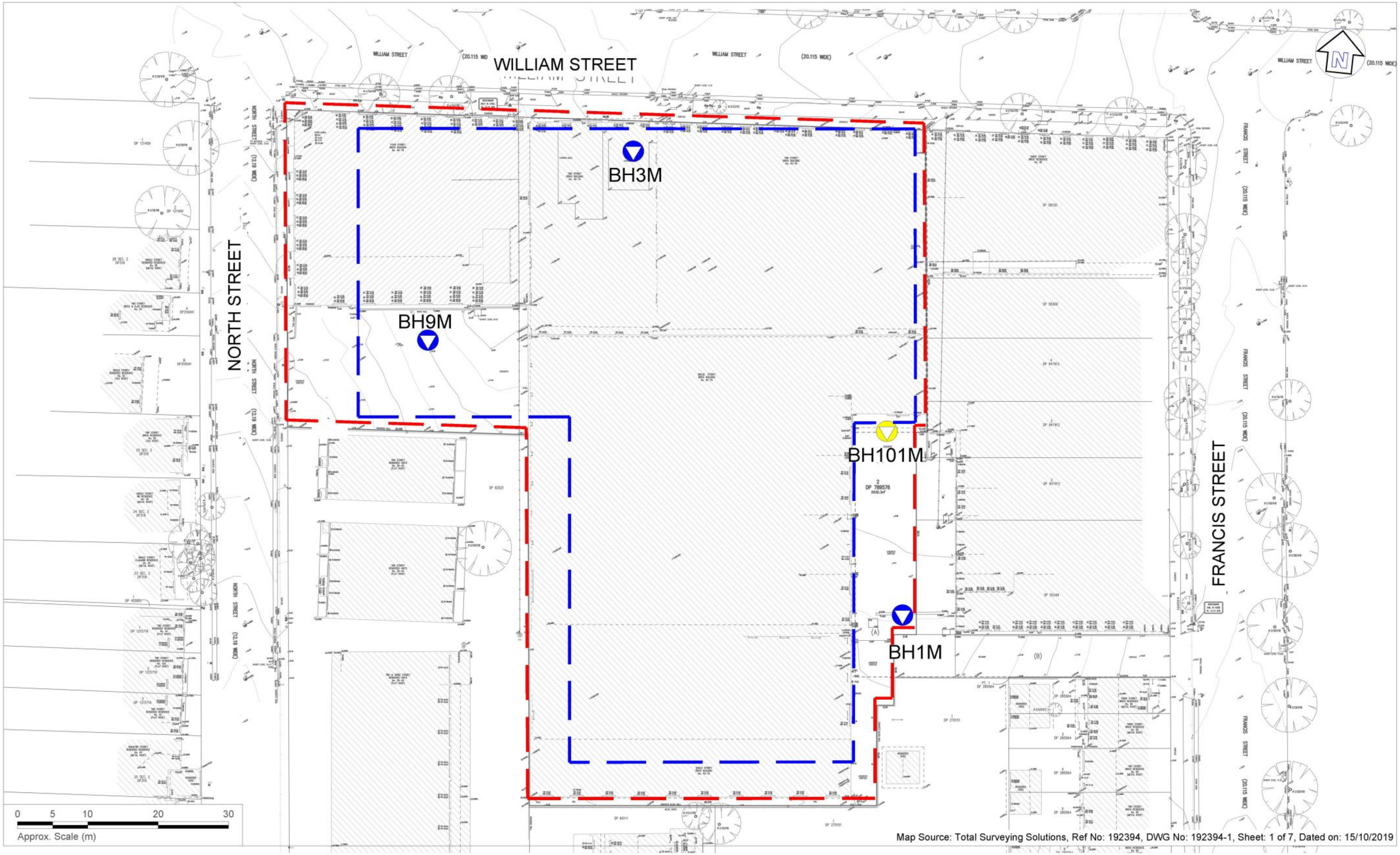
Monitoring Well ID	Average Groundwater RL (mAHD)	Highest Groundwater RL (mAHD)	Lowest Groundwater RL (mAHD)	Highest Groundwater Depth (m Below Ground)	Lowest Groundwater Depth (m Below Ground)
BH101M	6.52	6.66	6.29	2.09	2.46
BH3M	3.53	3.87	3.24	4.23	4.86
BH9M	8.82	9.58	8.16	2.42	3.84

Please do not hesitate to contact the undersigned should you have any questions.

For and on behalf of:
EI AUSTRALIA

Author	Reviewer
David Jeong	**Gokul Pothineni**
Undergraduate Geotechnical Engineer	Geotechnical Engineer

Attachments:	Figure 1:	Data Logger Location Plan
	Figure 2-4:	Groundwater Level, Daily Rainfall vs. Time From 22 August 2025 to 25 November 2025
	Important Information	



LEGEND

- Approximate site boundary
- Approximate basement boundary
- Approximate previous borehole/monitoring well location (EI, 2022)
- Approximate additional borehole/monitoring well location (EI, 2025)

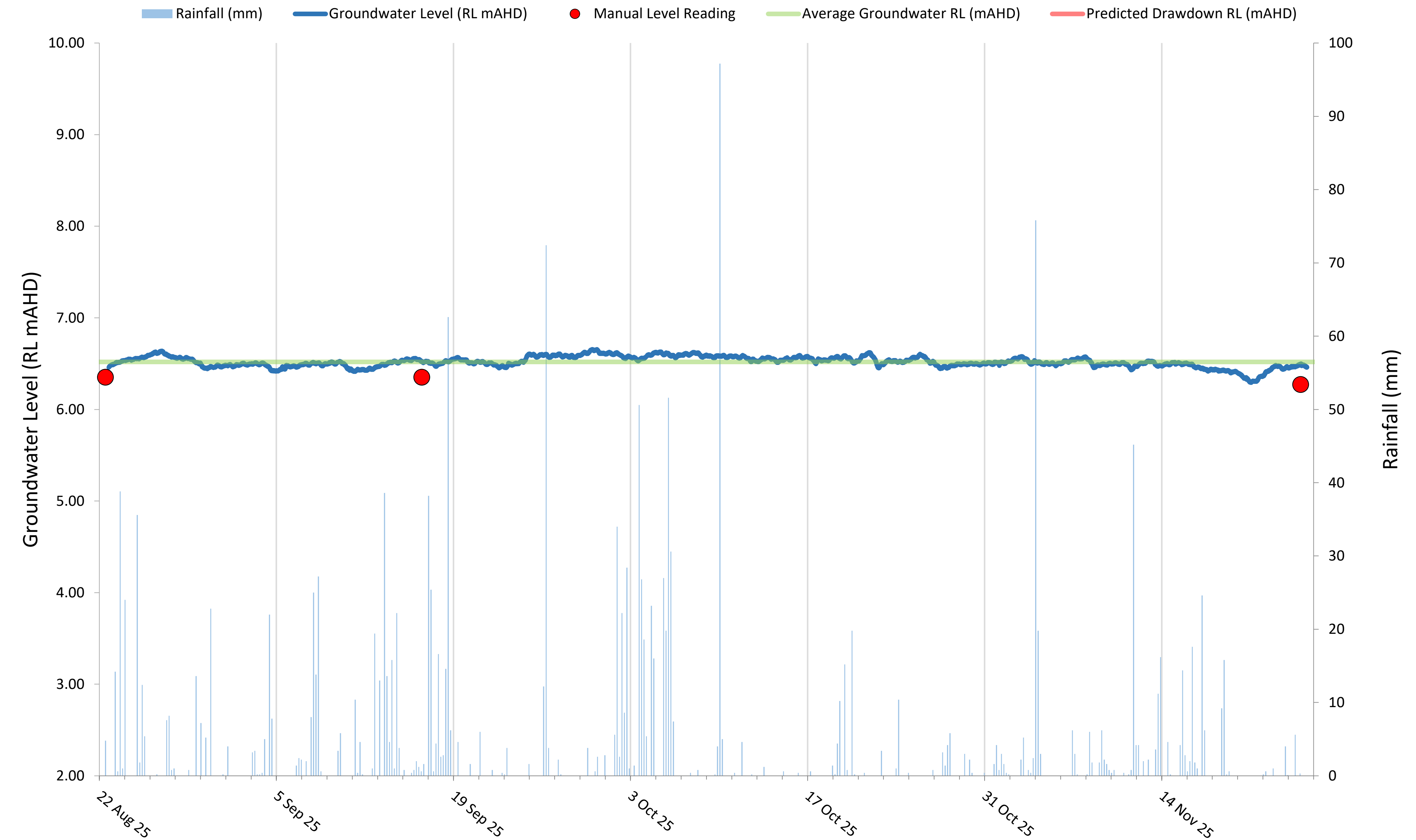
eiaustralia
Contamination | Remediation | Geotechnical
Suite 6.01, 55 Miller Street, PYRMONT 2009
Ph (02) 9516 0722 Fax (02) 9518 5088

Drawn:	AM.H.
Approved:	G.P
Date:	25/8/2025

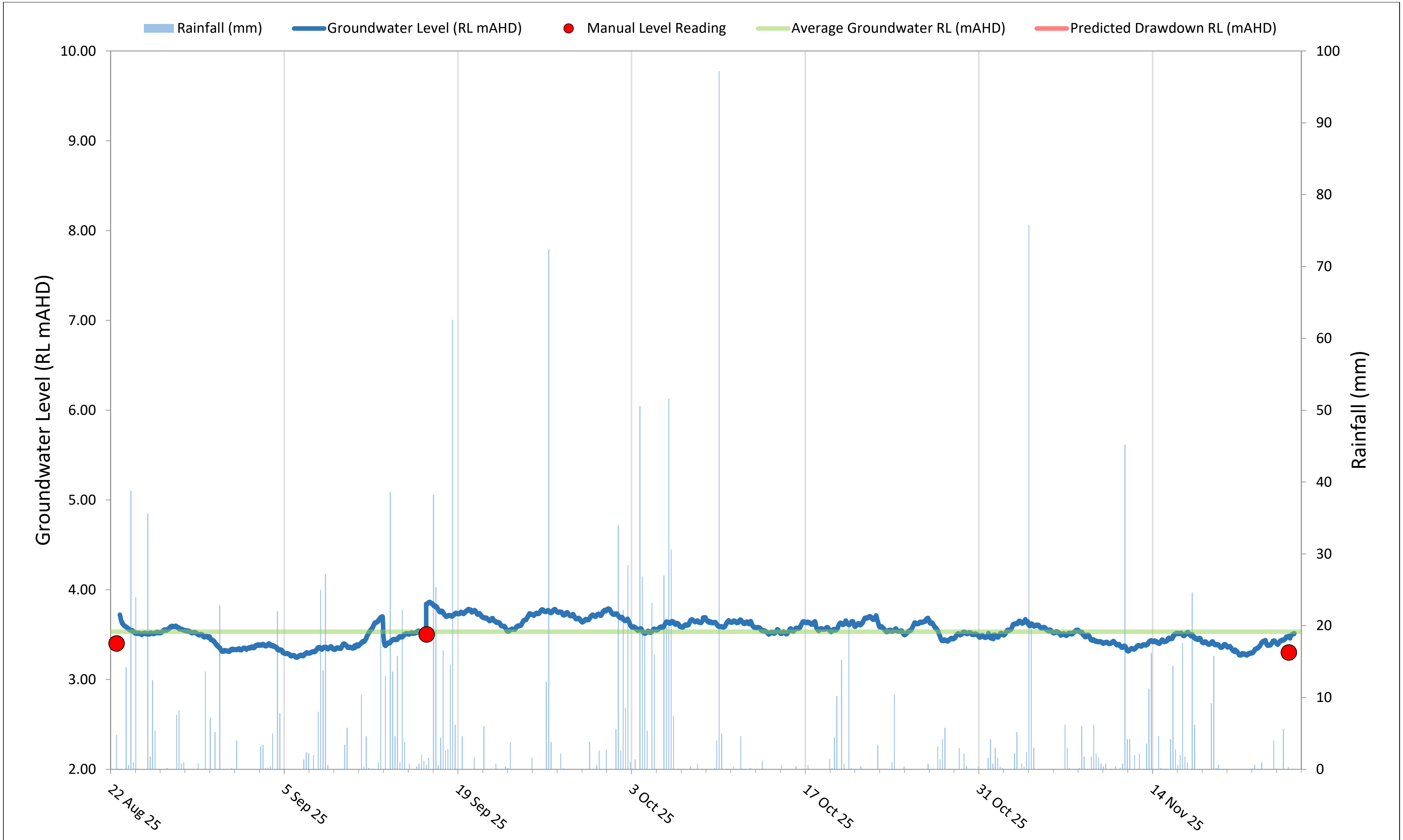
Ceerose Pty Ltd
Groundwater Monitoring
40-76 William Street, Leichhardt NSW
Borehole Location Plan

Figure: 2

Project: E24470.G11



eiaustralia Contamination | Remediation | Geotechnical Suite 6.01, 55 Miller Street, PYRMONT 2009 Ph. (02) 9516 0722 Fax (02) 9518 5088	Drawn:	DJ	**Anprisa Pty Ltd** Groundwater Level Monitoring 46 -76 William Street Leichhardt NSW BH101M	Figure: **2**
	Approved:	GP		
	Date:	13/05/2026		Project: E24470.G11.GW02



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Drawn:	DJ
Approved:	GP
Date:	13/05/2026

Anprisa Pty Ltd

Groundwater Level Monitoring

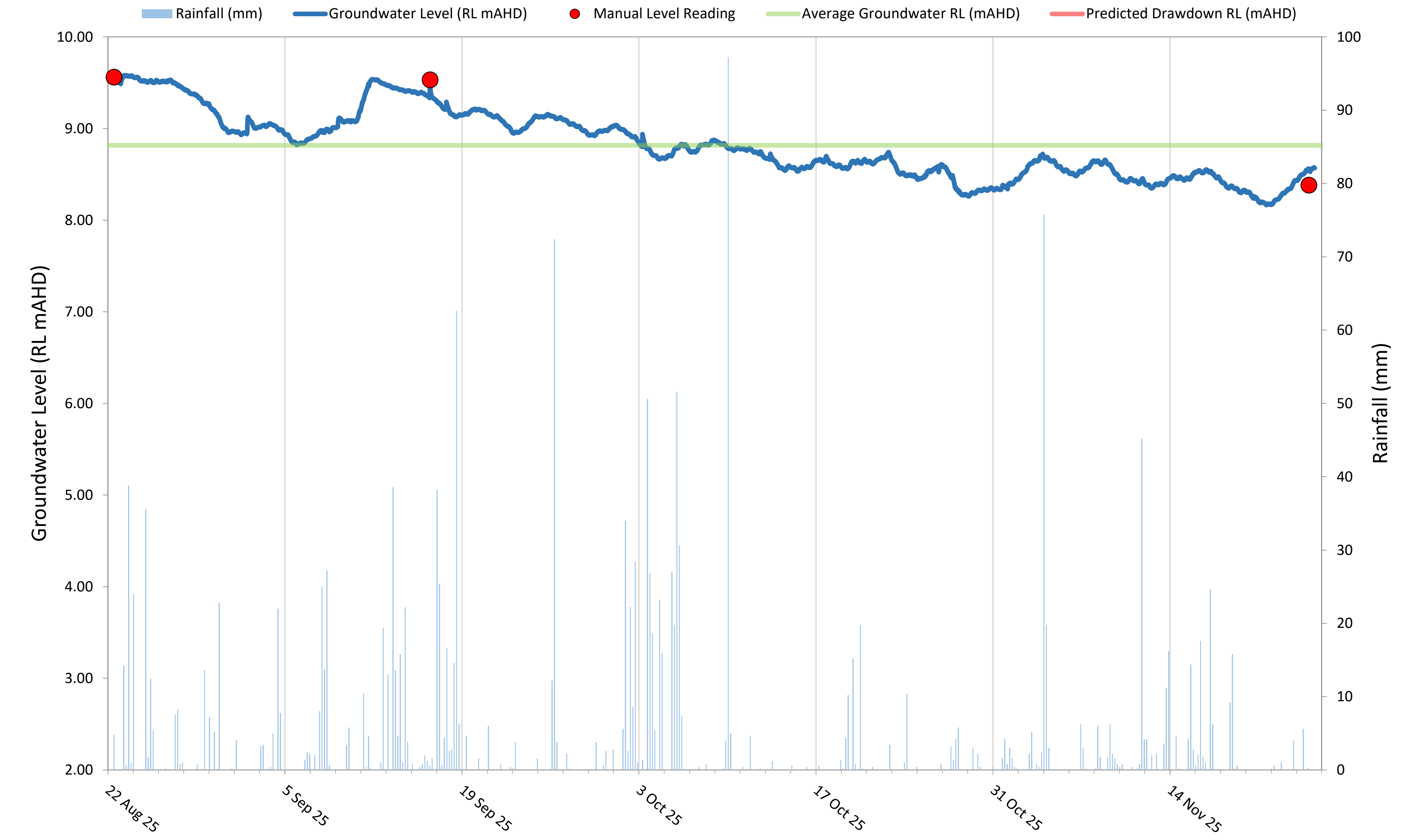
46 -76 William Street Leichhardt NSW

BH3M

Figure:

3

Project: E24470.G11.GW02



eiaustralia Contamination | Remediation | Geotechnical Suite 6.01, 55 Miller Street, PYRMONT 2009 Ph. (02) 9516 0722 Fax (02) 9518 5088	Drawn: DJ Approved: GP Date: 13/05/2026	**Anprisa Pty Ltd** Groundwater Level Monitoring 46 -76 William Street Leichhardt NSW BH9M	Figure: **4** Project: E24470.G11.GW02

Appendix D – Important Information

Important Information

SCOPE OF SERVICES

The geotechnical report ("the report") has been prepared in accordance with the scope of services as set out in the contract, or as otherwise agreed, between the Client And EI Australia ("EI"). The scope of work may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

RELIANCE ON DATA

EI has relied on data provided by the Client and other individuals and organizations, to prepare the report. Such data may include surveys, analyses, designs, maps and plans. EI has not verified the accuracy or completeness of the data except as stated in the report. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations ("conclusions") are based in whole or part on the data, EI will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to EI.

GEOTECHNICAL ENGINEERING

Geotechnical engineering is based extensively on judgment and opinion. It is far less exact than other engineering disciplines. Geotechnical engineering reports are prepared for a specific client, for a specific project and to meet specific needs, and may not be adequate for other clients or other purposes (e.g. a report prepared for a consulting civil engineer may not be adequate for a construction contractor). The report should not be used for other than its intended purpose without seeking additional geotechnical advice. Also, unless further geotechnical advice is obtained, the report cannot be used where the nature and/or details of the proposed development are changed.

LIMITATIONS OF SITE INVESTIGATION

The investigation programme undertaken is a professional estimate of the scope of investigation required to provide a general profile of subsurface conditions. The data derived from the site investigation programme and subsequent laboratory testing are extrapolated across the site to form an inferred geological model, and an engineering opinion is rendered about overall subsurface conditions and their likely behaviour with regard to the proposed development. Despite investigation, the actual conditions at the site might differ from those inferred to exist, since no subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies. The engineering logs are the subjective interpretation of subsurface conditions at a particular location and time, made by trained personnel. The actual interface between materials may be more gradual or abrupt than a report indicates.

SUBSURFACE CONDITIONS ARE TIME DEPENDENT

Subsurface conditions can be modified by changing natural forces or man-made influences. The report is based on conditions that existed at the time of subsurface exploration. Construction operations adjacent to the site, and natural events such as floods, or ground water fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report. EI should be kept appraised of any such events, and should be consulted to determine if any additional tests are necessary.

VERIFICATION OF SITE CONDITIONS

Where ground conditions encountered at the site differ significantly from those anticipated in the report, either due to natural variability of subsurface conditions or construction activities, it is a condition of the report that EI be notified of any variations and be provided with an opportunity to review the recommendations of this report. Recognition of change of soil and rock conditions requires experience and it is recommended that a suitably experienced geotechnical engineer be engaged to visit the site with sufficient frequency to detect if conditions have changed significantly.

REPRODUCTION OF REPORTS

This report is the subject of copyright and shall not be reproduced either totally or in part without the express permission of this Company. Where information from the accompanying report is to be included in contract documents or engineering specification for the project, the entire report should be included in order to minimize the likelihood of misinterpretation from logs.

REPORT FOR BENEFIT OF CLIENT

The report has been prepared for the benefit of the Client and no other party. EI assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of EI or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own inquiries and obtain independent advice in relation to such matters.

OTHER LIMITATIONS

EI will not be liable to update or revise the report to take into account any events or emergent circumstances or fact occurring or becoming apparent after the date of the report.