



MAIN WORKS FOR
WATERLOO MIXED USE DEVELOPMENT (HDA)

STATE SIGNIFICANT DEVELOPMENT APPLICATION
(SSDA) NUMBER SSD-80441462



Acid Sulfate Soil Assessment

881-885 Bourke Street, Waterloo, NSW

Document Control

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1. Introduction and Project Description

This acid sulfate soil assessment has been prepared by EI Australia on behalf of Waterloo Property Pty Ltd as trustee for the Waterloo Property Unit Trust (the Applicant) in support of a Housing Delivery Authority (HDA) nominated State Significant Development Application (SSDA) for a proposed mixed-use development at 881-885 Bourke Street, Waterloo, with concurrent rezoning (SSD-80441462). The report is submitted to the NSW Department of Planning, Housing, and Infrastructure (DPHI).

This application is preceded by a separate SSDA for Early Works that prepare the Site for the proposed development (SSD-80911502).

Specifically, consent is sought for the following Main Works for the Waterloo Mixed Use Development:

- Site establishment and enabling works (that were not included in the preceding Early Works SSDA);
- Construction of residential and mixed-use buildings across four development parcels, inclusive of;
 - build to rent apartments and associated amenities;
 - affordable apartments;
 - non residential floor space including commercial premises and creative industry;
- Construction of a consolidated basement with below-ground links between development parcels, comprising car parking, plant and storage area;
- Landscaping and publicly accessible open space;
- Works to site frontages; and
- Extension and augmentation of infrastructure and services (that were not included in the preceding early Works SSDA) as required.

Development on the site was declared State Significant Development (SSD) pursuant to State Significant Declaration Order 2025 (Order) dated 17 February 2025. The Order declares development specified in EOI application 229420 dated 8 January 2025, including development for the purposes of mixed-use development (Build to Rent including affordable housing) with ground floor non-residential uses at 881-885 Bourke Steet, as identified in Schedule 3, is SSD.

On 5 March 2025, the Department of Planning, Housing and Infrastructure (the Department) issued SEARs and concurrent rezoning requirements for the project.

The site is subject to an existing Voluntary Planning Agreement (VPA) that sets out dedication of public domain between four development parcels. The public domain includes a new east-west street, a through site link and public open space area (comprising future shared zones and park). The development parcels and public domain as set out in the VPA will be delivered notwithstanding the works proposed in this SSDA.

This report has been prepared to assess the potential for acid sulfate soils (ASSs) to be present on the site.

2. Site Context and Description

The site is legally described as Lot 1 DP1308636 and Lot 2 DP1308636 and is located at 881-885 Bourke Street, Waterloo. The site has an area of 21,554m². It has an irregular shape, is generally flat and has been cleared of all light industrial and large format commercial buildings. The site currently has vehicle access from Young Street and Bourke Street.

The site is located within Gadigal Land, in the Sydney Local Government Area (LGA) and is approximately 4km south of the Sydney CBD. The site is approximately 950m walking distance east of an entrance to the Waterloo Metro Station, approximately 1.1km northeast of the Green Square Train Station and approximately 1.5km southeast of Redfern Train Station. The site is also immediately adjacent to a bus stop on Bourke Street.

There are a number of trees along the Danks and Young Street frontages. Additional trees on these frontages are located outside the site boundary. There are commercial and business premises to the west, high-density residential and business premises to the north, primarily high-density residential to the east and high density residential under construction to the south.

An aerial of the site is provided in **Figure 1**.



Figure 1 Site Aerial
(Source: Nearmap, Ethos Urban)

3. Report Purpose

This soil salinity assessment report has been prepared to address the *Planning Secretary's Environmental Assessment Requirements* (SEARs) issued by the Department of Planning, Housing and Infrastructure (DPHI) for the subject SSDA, with specific SEAR(s) identified in the table below.

SEAR	SEAR Description	Report Name or Report Section
12 Ground and Groundwater Conditions	Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site and including soil erosion. Where required provide a groundwater impact assessment in accordance with relevant groundwater guidelines. If the proposed development is on land identified as a having high salinity or acid sulfate soil potential in an EPI, provide a salinity management plan or acid sulfate soil management plan that includes appropriate management measures and strategies.	Acid Sulfate Soil Assessment

4. Consultant Report Content

4.1 Project Objectives

The main objective of this assessment was to evaluate the potential for acid sulfate soils to be present on the site. Should the potential be confirmed, a secondary objective was to provide advice for the management of such soils during the proposed development.

4.2 Scope of Work

In order to achieve the above objectives, the following scope of work was completed:

- Review of relevant topographic, geological and soil landscape maps, including the relevant ASS planning and risk maps;
- A site walkover inspection;
- Review of the logs for twelve boreholes located across the site (BH101-BH112), drilled and cored to depths of up to 20 metres below ground level (BGL);
- Multiple level soil sampling at each of the bores;
- The installation of a groundwater monitoring well in five of the bores (BH101M, BH102M, BH106M, BH109M and BH112M);
- Laboratory analysis of selected soil samples for pH, electrical conductivity (EC) and soluble chloride and sulfate;
- Completion of a groundwater monitoring event (GME), which included measurement of standing water levels (SWLs) and laboratory analysis of representative water samples for a broad range of physico-chemical parameters; and
- Data interpretation and reporting.

This report documents the findings from the desktop study, site inspection and field (borehole drilling and soil / groundwater sampling) works. The laboratory analytical results are assessed against criteria relating to ASS.

Notes:

This ASS assessment coincided with a geotechnical investigation of the site, also conducted by EI, the corresponding field component (completed between 11-21 May 2025) providing information relevant to both reports.

ASSs are naturally occurring sediments containing iron sulphides, usually deposited in estuarine environments. Their occurrence is not related to site boundaries or anthropogenic contamination; rather, they extend across regions suitable for their deposition. When ASSs are exposed to air (e.g. due to bulk excavation or dewatering), oxygen reacts with the iron sulphides, producing sulphuric acid (and iron oxides). The acid can be produced in large quantities and drain into waterways causing severe short and long term socio-economic and environmental impacts, including damage to manmade structures and natural ecosystems.

ASS can be classified as either:

- Actual acid sulfate soil (AASS), within which are materials that have already reacted with oxygen to produce acid; or
- Potential acid sulfate soil (PASS), within which are materials that contain iron sulphides, but have not been exposed to oxygen (e.g. soils below the water table) and therefore have not produced sulphuric acid (though they have the capacity to do so).

Aquatic organisms are extremely sensitive to acid drainage. The impacts from ASS leachates include:

- Dissolved metals (aluminium in particular) can be toxic to aquatic life forms;
- Dissolved sulfate salts can increase the salinity of freshwater; and
- Acidic sediment may "fix" phosphates and other nutrients, preventing their uptake by plants.

4.3 Regulatory Framework

The following references provided the regulatory framework for this assessment:

- EPA (1995) *Assessing and Managing Acid Sulfate Soils - Guidelines for Land Management in NSW Coastal Areas*;
- ASSMAC (1998) *Acid Sulfate Soil Manual*;
- Landcom (2004) *Managing Urban Stormwater: Soils and Construction*;
- Standards Australia (2009) *Australian Standard AS2159-2009: Piling - Design and Installation*;
- Standards Australia (2011) *Australian Standard AS2870-2011: Residential Slabs and Footings*; and
- Sullivan L, Ward N, Toppler N and Lancaster G (2018) *National Acid Sulfate Soils Guidance: National Acid Sulfate Soils Sampling and Identification Methods Manual*.

4.4 Map Information

Local topography, geological and soil landscape information is summarised in **Table 4-1**. Refer also to **Appendices A** and **B** for site plans.

Table 4-1 Regional Setting Information

Attribute	Description
Topography	The site is located within gently (0° to 5°) dipping topography, with relative levels varying from 29.70 metres Australian Height Datum (m AHD) in the north east corner, to 26.44m AHD in the south west corner.
Surface Drainage	Likely to be consistent with the general slope of the site. Surface runoff is expected to be collected in stormwater pits and piped to the municipal collection systems.
Geology	With reference to the <i>NSW Seamless Geology</i> by the Geological Survey of New South Wales (version 2.4; source: MinView) and the Department of Mineral Resources <i>Sydney 1:100,000 Geological Series Sheet 9130</i> (DMR 1983), the subsurface is comprised of marine-deposited and aeolian-reworked coastal sands, underlain by Hawkesbury Sandstone (<i>Rh</i>). Hawkesbury Sandstone consists of medium to coarse-grained quartz sandstone, with minor shale and laminitic lenses.
Soil Landscape	According to eSPADEV2.2 (DCCEEW, 2024), the site lies within a Tuggerah (<i>tg</i>) aeolian landscape, which is characterised by gently undulating to rolling coastal dunefields (local relief to 20m, slope gradients generally 1-10% but occasionally up to 35%, north-south oriented dunes with convex narrow crests, moderately inclined slopes and broad gently inclined concave swales).
Nearest Surface Water Feature	Sheas Creek, located approximately 1200 metres northwest of the site, which discharges into Alexandra Canal, approximately 2200 metres northwest of the site.
Groundwater Flow Direction	Inferred to be in a south-western direction, towards Sheas Creek.

ASS Planning and Risk Maps

The *Sydney Local Environmental Plan 2012 - Acid Sulfate Soils Map* has the site within a *Class 5* area. According to the *Botany Bay Acid Sulfate Soil Risk Map* (Murphy, 1997), the site is within an area of 'No Known Occurrence', for which ASSs are not known or expected to occur, and land management activities are not likely to be affected by acid sulfate materials.

4.5 Site Walkover Inspection

Site inspection was conducted as part of the field (borehole drilling, soil sampling and well installation) works, which were completed between 11-21 May 2025. The following observations were recorded. Refer also to the site plans in **Appendices A and B**.

- The site is an irregular shaped block of land (21,554m² in total area), comprised of light industrial and large commercial buildings bound by commercial properties and Danks Street (north), Young Street (west), Bourke Street (east) and vacant land and commercial properties followed by McEvoy Street (south).
- At the time of the inspections all buildings had been demolished and earthworks were in progress.
- Stockpiles of treated (remediated) and non-treated soil were present on-site.
- There was no evidence of the existence of an underground storage tank (UST) on the site. No above-ground storage tank (AST) was present.
- No olfactory indicator of contamination (e.g. petroleum / chlorinated hydrocarbon odour) was detected during the inspections.
- There was no visible evidence of contamination in exposed soils, such as ash, charcoal, oil staining, salt deposits and/or fragments of metal and fibre cement sheeting (FCS).
- A diverse range of plants was present across the site, suggesting site soils were not a concern in terms of phytotoxicity.
- All parts of the site were free of any odours and visual signs of contamination resulting from ASS (e.g. e.g. no hydrogen sulfide (H₂S) odour, iron staining or corrosion was detected).
- There was no visual evidence of contamination resulting from high levels of salts (e.g. soil scalding or acid salt deposits).
- No surface ponding, derived from seepage water, was observed on the site.

Recent Remediation

It was understood that both the site and surrounding land had been used for a range of industrial purposes for more than 60 years. The site required remediation of volatile chlorinated hydrocarbons (VCHs), due to dry cleaning activities being performed on the property.

Stage 1 remediation was completed in October 2024, while Stage 2 remedial works were in progress at the time of this assessment. The remediation strategy included on-site treatment of impacted materials, the intention being to re-use treated (remediated) soils for backfilling where possible. Grossly contaminated materials (soil or water) were disposed off-site in accordance with the EPA (2014) *Waste Classification Guidelines*.

Note: Clean-up of VCHs in groundwater was achieved before 2016, via the implementation of an extraction and treatment system, the latter involving enhanced *in situ* bioremediation.

4.6 Geomorphic Characteristics of ASS

The likelihood of ASS occurrence on-site was considered against various geomorphic criteria given in ASSMAC (1998) *Acid Sulfate Soil Manual*. The considerations are given in **Table 4-1**.

Table 4-1 Consideration of Geomorphic Indicators for ASS

Geomorphic Indicator	Is geomorphic feature present on-site?
Quaternary-age (Holocene) sediments	Present Based on maps and borehole logs in Appendix C
Soil horizons less than 5m AHD	Unlikely
Marine / estuarine sediments or tidal lakes	Present

Geomorphic Indicator	Is geomorphic feature present on-site?
	Based on maps and borehole logs in Appendix C
Coastal wetland; backwater swamps; waterlogged or scaled areas; inter-dune swales or coastal sand dunes	Present Based on maps and borehole logs in Appendix C ; site located in an aeolian (sand) landscape
Dominant vegetation is mangroves, reeds, rushes and other swamp or marine tolerant species	No Based on walkover inspection
Geologies containing sulfide bearing material	No Based on maps and borehole logs in Appendix C
Deep older (Pleistocene) estuarine sediments	Possible Based on maps and borehole logs in Appendix C

4.7 Likelihood of ASS Occurrence

Based on the preliminary (desktop and inspection) findings, the site was situated within a relatively flat and elevated (not low-lying; 26.44-29.70m AHD), aeolian dunefield landscape. According to the *Botany Bay Acid Sulfate Soil Risk Map* (Murphy, 1997), that landscape had 'No Known Occurrence' (of ASS). The cleared (demolished / vacant) property displayed some of the geomorphic indicators of dryland salinity, including.

- the presence of Quaternary-age (Holocene) marine sedimentary sands; consistent with
- soils comprising coastal sand dunes.

The soils to 5m BGL, at least, were expected to be dominated by loose, permeable, medium to coarse-grained, quartz sands of marine origin, those sands being underlain by sandstone.

Potential Effects of Site Remediation and Proposed Development

The site remediation conducted post building demolition resulted in the disturbance and relocation of fill and natural soils. Reworked soils retained on-site may have been mixed with additives intended to promote contaminant amelioration, thus changing their composition, including inorganic salt contents.

Based on the plans of the proposed development (**Appendix B**), bulk excavation will extend to approximately 11m BGL, equating to 19.7-22.1 m AHD, including an allowance for the thickness of the base slab. Locally deeper excavations may be required for footings, lift overrun pits, crane pads and service trenches.

Whilst the potential for ASSs to be present on-site was regarded as low, given these considerations, further investigation involving soil and groundwater sampling and laboratory analysis was deemed prudent, to confirm their absence. This judgement was consistent with the *Sydney Local Environmental Plan 2012*, as well as Schedule 3 of the New South Wales Government *Environmental Planning and Assessment Regulation 1994*.

4.8 Sampling Methodology

The soil sampling works are described in **Table 4-3**. Test bore locations are illustrated in **Appendix A, Figure 2**. The borehole logs are provided in **Appendix C**.

Table 4-3 Summary of Soil Sampling Methodology

Activity	Details
Fieldwork	The field work (borehole drilling and soil sampling) for this assessment was conducted between 11-21 May 2025.
Drilling Method	Test bores were drilled using a vehicle-mounted, mechanical drilling rig, fitted with solid flight augers. Test bores were drilled to a maximum depth of m BGL.

Activity	Details
Soil Logging	Drilled soils were described in the field with respect to lithological characteristics. Soil descriptions were based on Australian Standard AS1726:2017 and are given in the borehole logs (Appendix C).
Soil Sampling	Soil samples were collected by dry grab from the auger flights (the sampler wearing previously unused, dedicated nitrile gloves), and placed into laboratory-supplied, glass jars.
Sample Preservation	Samples were stored in insulated chests (containing ice bricks), whilst on-site and in transit to the laboratory. Sample transport was performed under strict chain-of-custody (COC) conditions. Copies of the completed COC forms (used to track sample movements) and laboratory sample receipt advice (SRA) are provided in Appendix C .
Soil Cuttings	Soil cuttings were used as backfill for completed boreholes.
Laboratory Analysis	The soil samples (jars) were submitted to SGS Environmental Services (SGS; Alexandria laboratory) for analysis of the prescribed parameters. The corresponding laboratory analytical report is provided in Appendix C .

The groundwater sampling works are described in **Table 4-4**. Well locations are illustrated in **Appendix A, Figure 2**. The well constriction details are included in the corresponding logs provided in **Appendix C**.

Table 4-4 Summary of Groundwater Sampling Methodology

Activity	Details
Well Construction	Test bores were drilled using a vehicle-mounted, mechanical drilling rig, fitted with solid flight augers. Test bores were drilled to a maximum depth of 3.1m BGL (Appendix C).
Fieldwork	A single GME, involving water level gauging, well purging, measurement of physiochemical parameters and groundwater sampling was conducted on 27 May 2025 at five previously installed monitoring wells, listed below.
Well depth	▪ BH101M: total well depth 12.10m BGL; ▪ BH102M: total well depth 12.56m BGL; ▪ BH106M: total well depth 12.10 BGL; ▪ BH109M: total well depth 13.10 BGL; and ▪ BH112M: total well depth 12.25 BGL.
Groundwater Purging and Sampling	Groundwater was purged and sampled using a low-flow bladder pump. During the purging process, water was continuously measured for the field parameters temperature (T), electrical conductivity (EC), oxidation-reduction potential (ORP), dissolved oxygen (DO) and pH, using a <i>Hanna</i> Multi Parameter 9829 positioned within an open flow-through cell. Once the parameters stabilised (i.e. within $\pm 10\%$ for DO, $\pm 3\%$ for EC, ± 0.05 for pH, $\pm 0.2^\circ$ for temperature and $\pm 20\text{mV}$ for ORP), groundwater sampling was undertaken, by diverting the outlet of the sampling pump (immediately before the flow cell) to the sampling vials and bottles.
Sample Preservation	Samples were stored in insulated chests (containing ice bricks), whilst on-site and in transit to the laboratory. Sample transport was performed under strict chain-of-custody (COC) conditions. Copies of the completed COC forms (used to track sample movements) and laboratory sample receipt advice (SRA) are provided in Appendix C .
Laboratory Analysis	The water samples (bottles and vials) were submitted to SGS Environmental Services (SGS; Alexandria laboratory) for analysis of the prescribed parameters. The corresponding laboratory analytical report is provided in Appendix C .

4.9 Laboratory Analyses

Nine soil samples from the twelve boreholes were assigned for selected analysis of the following parameters, to confirm the presence/absence of ASSs:

- pH;
- EC; and
- soluble anions (chloride, sulfate).

All laboratory analyses were conducted on discrete (un-composited) samples using NATA-registered methods. The subsequent results are tabulated in **Appendix D** and presented in more detail in a copy of the laboratory analytical report, which is provided in **Appendix C**.

Each soil EC result reported by SGS (in $\mu\text{S}/\text{cm}$) was converted to extract electrical conductivity (EC_e ; having units of dS/m), by multiplying it with the appropriate texture conversion factor. Factors of 10 and 17 were applied for light clay / loam and sand-dominated soils, respectively, as per Hazelton and Murphy (2007) *What Do All the Numbers Mean? A Guide for the Interpretation of Soil Test Results*.

4.10 Assessment Criteria

The criteria adopted for this assessment were derived from the following publications:

- ASSMAC (1998) *Acid Sulfate Soil Manual* (specifically Tables 2.3 and 4.4 from Section 2 ASSs Assessment Guidelines), for pH criteria;
- Chapman and Murphy (1989) *Soil Landscapes of the Sydney 1:100 000 Sheet* (specifically Appendix 7.6, *Rankings for Laboratory Tests*), for pH and EC_e criteria;
- DLWC (2002) *Site Investigations for Urban Salinity* (Appendix 2, *Extract from Australian Standard AS2159:1995 Piling - Design and Installation*), for chloride and sulfate criteria;
- Hazelton and Murphy (2007) *What Do All the Numbers Mean? A Guide for the Interpretation of Soil Test Results*; and
- Standards Australia (2009) *Australian Standard AS2870-2011 Residential Slabs and Footings*, for soil aggressivity towards concrete and steel piles (exposure classification).

The individual thresholds are presented alongside the analytical results in the corresponding summary tables, which are discussed in **Section 4.12**.

Notes:

Aggressivity is relevant to the current assessment. It is a measure of the soil's ability to corrode concrete and steel infrastructure.

4.11 Field Observations

Soil

A summary of the logs for boreholes BH101-BH112 excluding any hardstand is presented in **Table 4-5**. The corresponding borehole logs are presented in **Appendix C**.

Table 4-5 Summary of the Sub-Surface Profile

Layer	Description	Minimum and Maximum Depth (m BGL)
Fill	Sandy Gravel and Clayey Sand	0.0- 4.5
Natural Soil	Sand	0.3 – 7.5
Natural Soil	SAND	1.5-12.0
Bedrock	SANDSTONE	6.5 – 14.8+

Upon assessing the logs for the test boreholes, the sub-surface was generalised as a layer of Sandy Gravel and Clayey Sand fill (0.0-4.5m thickness), overlying natural sand and silty clay, grading into (weathered) sandstone, the bedrock occurring from 6.5 m BGL onwards.

The following observations were noted during the borehole drilling:

- For each test bore, drilling was terminated with resistance on weathered sandstone at the noted maximum depth.
- No evidence of salt scarring, staining, or unusual colouration was identified in any of the examined soils.
- No suspicious odour was detected in any of the examined soils.
- No soils containing pale yellow deposits/coatings of jarosite, indicative of actual ASSs, were observed at any of the sampling locations. No dark blue grey or dark greenish grey muds or sands, indicative of potential ASSs, were observed at the sampling locations.
- No marine grit (white shell fragments) was observed in the examined soils.
- No visual sign of contamination (e.g. charcoal, ash, oily filming, asbestos fragments) and/or salting was detected in any of the examined soils.
- Soil samples were obtained from each bore, at depths ranging between m BGL.

Groundwater

Groundwater inflows were observed at BH103, BH104, BH105, BH106M, BH107, BH108, BH109M, BH110, BH111 and BH112M.

Based on the field water quality results during EI GME performed on 27 May 2025 which included groundwater sampling from five existing monitoring wells (BH101M, BH102M, BH106M, BH109M and BH112M), the groundwater was considered to be generally acidic to slightly acidic (pH: 4.42-6.19), fresh to marginal in terms of salinity as indicated by the EC values (EC: 765-1272 μ S/cm), oxygen-depleted (DO: 0.0 mg/L) and in an oxidising environment (Eh: 101.5-179.9mV).

4.12 Laboratory Analytical Results

Soil

The laboratory analytical results for the tested soil samples are tabulated in **Appendix D (Table D1)**. A summary for each analyte is given below.

pH

The tested soil samples displayed very strongly acid (pH 4.5; BH101M_6.0-6.3) to slightly alkaline (pH 8.1; BH101M_4.5-4.95) pH values, based on the rankings defined by Hazelton and Tille (1990) and Hazelton and Murphy (2007).

The site soils were thus variable in pH, but neither grossly acidic nor grossly alkaline, thus unlikely to cause corrosion of concrete and steel. They were deemed 'non-aggressive' to such (which would apply if pH $\leq$ 5.5) at all sampling locations with an exception of and 'mild' at BH101M_6.0-6.3, based on the definition given in *Australian Standard AS2159-2009 Piling Design and Installation*.

The pH values ranged from 4.5-8.1, indicating acidic to alkaline soils. All values were well above 4, indicating an absence of actual ASS.

EC

The EC_e values were 'non-saline' (EC_e: 0.18 – 1.19 dS/m), based on the rankings defined by DLWC (2002) *Site Investigations for Urban Salinity*.

Chloride and Sulfate

Low concentrations of extractable chloride (6.6-37 mg/kg) and sulfate (<5-50mg/kg) were recorded for the tested samples. Based on the corresponding criteria defined under the DLWC (2002) *Site Investigations for Urban Salinity* and *Australian Standard AS2159-2009 Piling Design and Installation*, the soils were classified as non-aggressive to steel piles and non- to mildly aggressive to concrete.

Aggressivity

The pH and soluble anion data indicated that site soils above the groundwater table were non- to mildly aggressive to steel piles and non- to mildly aggressive to concrete.

Groundwater

The laboratory analytical results for the representative groundwater samples are tabulated in **Appendix D (Table D2)**.

5. Mitigation Measures

Assuming that the potential for acid sulfate soils to be present on-site was low, and corresponding management was therefore unwarranted, mitigation measures were not included in this assessment report.

Mitigation measures are not required for the site. However, contingency measures will be implemented in case acid sulfate soils are suspected during the excavation works. These measures are outlined in **Table 5-1** below.

Table 5-1 Recommended Contingency Measures

Condition	Preventive / Corrective Actions
Saline and/or acid sulfate soil suspected	Stop excavation and confine material to a bunded (treatment) area. Have material assessed by environmental consultant for presence. Follow procedures described in a site-specific management plan. Procedures should include addition of gypsum and/or lime, allowing a safety factor of 1.5 in the calculation of the amount of additive required (to ensure sufficient treatment).
Treatment of saline / ASS not effective	Re-assess gypsum and/or liming rates. Continue or ameliorate addition, as required. Re-sample and analyse to confirm successful treatment.
Neutralisation of ASS indicates too much lime added (soil is highly alkaline)	Remediate soils before use, by mixing the material with non-treated, acidic soil (i.e. use excess lime to neutralise more ASS). Re-sample and analyse to confirm successful treatment (neutralisation).
Bunded soil treatment area is damaged	Repair bund as soon as practicable. Clean-up any dispersed soil and place back into the treatment area. Check surrounding area for impact from leachate and take remedial action.
Groundwater level falls below the upper (predicted / allowable) limit	Pause / adjust the rate of dewatering to restore groundwater level to / above the allowable soil horizon limit. Review soil exposure by checking field pH and EC within affected area. Determine potential causes by reviewing construction practises, weather, baseline groundwater monitoring data. Perform additional groundwater monitoring as necessary. Review and confirm mitigation measures to be implemented, including: ▪ Maintaining soil moisture levels by targeted groundwater recharge; ▪ Adjusting the construction activities or schedule; and ▪ Treatment of additional soil in treatment area. The pH and EC of water should be monitored.
Extended rainfall generating excessive water	Test accumulated (ponded) water for pH and EC. Review disposal options. Release to local stormwater network, if dewatering licence permits, or reinject into subsurface. Backfill pits as soon as practical, to reduce capacity for site ponding.
Extended delays due to equipment failure, leaving excavated materials open to oxidation	Confirm addition of gypsum / lime sufficient to neutralise the total potential salinity and/or acidity of the excavated soil. Cover stockpiles and/or the walls and bases of exposed soil surfaces with sheets of builder's plastic, to reduce rates of soil leaching and oxidation. Review engineering (shoring / piling) designs.
Spillage of saline / acid	Spilt soil to be collected and transferred to the bunded treatment area as

Condition	Preventive / Corrective Actions
sulfate soil	soon as practicable.

6. Conclusion

The main objective of this assessment was to evaluate the potential for ASSs to be present on the site. The key findings were as follows:

- The site was situated within a relatively flat and elevated (not low-lying; 26.44-29.70m AHD), aeolian dunefield landscape. According to the *Botany Bay Acid Sulfate Soil Risk Map*, that landscape had 'No Known Occurrence' (of ASS).
- The cleared (demolished / vacant) property displayed some of the geomorphic indicators of dryland salinity, including:
 - the presence of Quaternary-age (Holocene) marine sedimentary sands; consistent with soils comprising coastal sand dunes.
- Based on the logs for the (previous investigation) test boreholes, the sub-surface was generalised as a layer of Sandy Gravel and Clayey Sand fill (0-4.5m thickness), overlying natural sand and silty clay, grading into (weathered) sandstone, the bedrock occurring from 6.5-14.8m BGL onwards.
- The site soils were variable in pH (4.5-8.1), but neither grossly acidic nor grossly alkaline.
- None of the examined soils displayed any of the visual indicators of actual and potential acid sulfate soils, such as pale yellow deposits / coatings of jarosite and dark (blue/green) grey muds. No marine shell grit was encountered in any of the examined soils.
- Laboratory analysis of representative samples from all test boreholes indicated an absence of actual ASS in the soil layers to 6.3 BGL (at least). Beneath that sampling depth was weathered bedrock (non-ASS containing).

Based on the findings from this assessment and with due consideration of EI's *Statement of Limitations*, EI concluded that the potential for ASSs to be present on the site was low. The likelihood that acid sulfate conditions would be generated during the proposed development was regarded as negligible. Hence, the preparation of an ASS management plan was unwarranted.

Recommendation

Soils designated for off-site disposal during the proposed development will require classification in accordance with the EPA (2014) *Waste Classification Guidelines*. This requirement is to assist their disposal at appropriately licensed landfill facilities.

Statement of Limitations

This report was prepared for the use of The Trustee for Waterloo Property Unit Trust. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

The findings presented in this report are the result of discrete and specific sampling methodologies used in accordance with best industry practices and standards. Due to the site-specific nature of soil sampling from point locations, it is considered likely that all variations in subsurface conditions across a site cannot be fully defined, no matter how comprehensive the field investigation program.

While normal assessments of data reliability have been made, EI assumes no responsibility or liability for errors in any data obtained from previous assessments conducted on site, regulatory

agencies (e.g. Council, EPA), statements from sources outside of EI, or developments resulting from situations outside the scope of works of this project.

Despite all reasonable care and diligence, the ground conditions encountered and concentrations of parameters measured may not be representative of conditions between the locations sampled and investigated. In addition, site characteristics may change at any time in response to variations in natural conditions, chemical reactions and other events (e.g. groundwater movement and or spillages of contaminating substances). These changes may occur subsequent to EI's assessment.

EI's assessment is necessarily based upon the result of the site investigation and the restricted program of surface and subsurface sampling and chemical testing, which was set out in the proposal. Neither EI, nor any other reputable consultant, can provide unqualified warranties, nor does EI assume any liability, for site conditions not observed or accessible during the time of the investigation.

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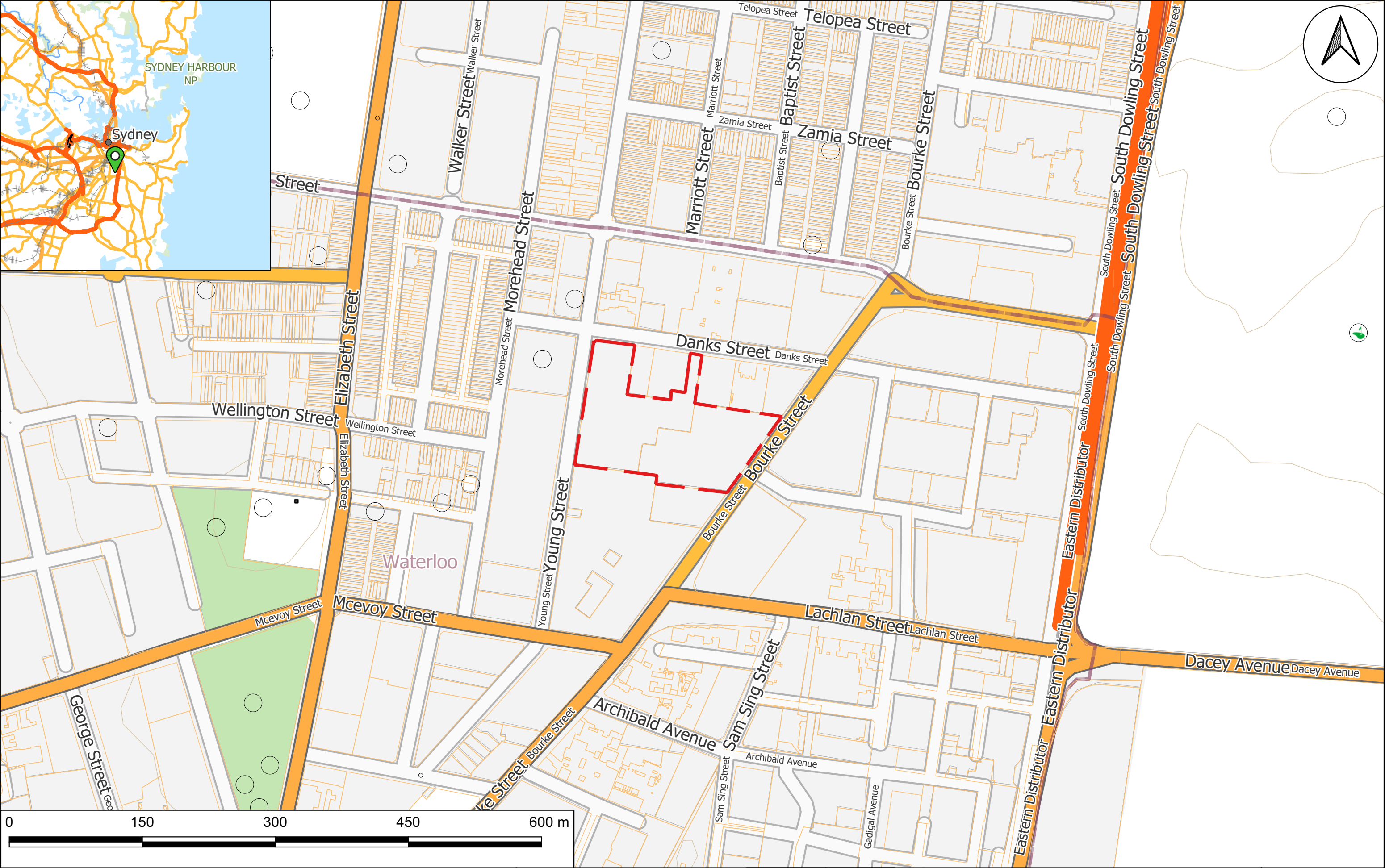
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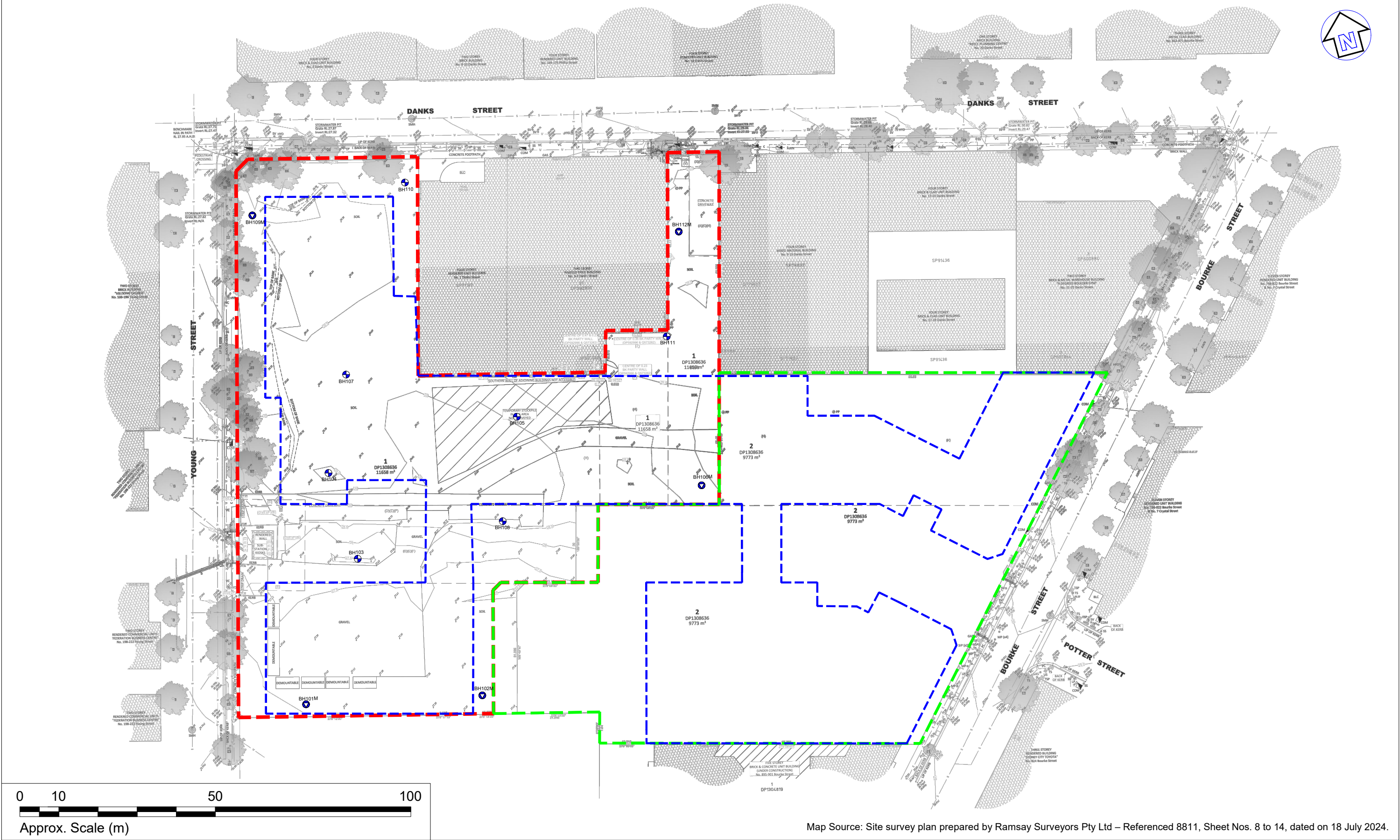
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Appendix A – Figures



LEGEND Note: All locations are approximate Site Boundary	 Practical Solutions for Built Environments Suite 6.01, 55 Miller Street, PYRMONT 2009 Ph (02) 9516 0722 Fax (02) 9518 5088	Drawn:	C.Y.	Main Works for Waterloo Mixed Use Development (HDA) Acid Sulfate Soil Assessment 881-885 Bourke Street, Waterloo NSW, Australia Site Locality Plan	Figure: 1
		Approved:			
		Date:	26/05/2025		Project: E26442.E14



LEGEND (All Locations are Approximate)

- Stage 1 Site Boundary
- Stage 2 Site Boundary
- Basement Boundary
- Borehole/monitoring well location
- Borehole location



Drawn:	T.W./M.O.
Approved:	D.D.
Date:	17-7-25

Main Works for Waterloo Mixed Use Development (HDA)
Acid Sulfate Soil Assessment
881-885 Bourke Street, Waterloo NSW
Borehole Location Plan

Figure:
2
Project: E26442.E14

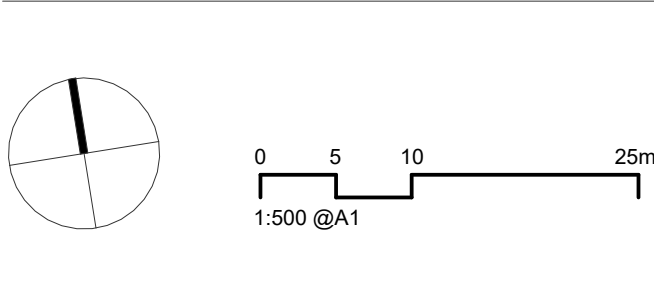
Appendix B – Proposed Development Plans



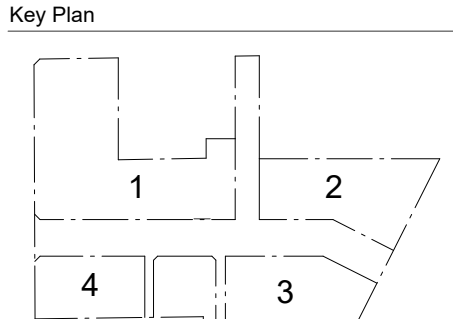
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		2 BED	
		3 BED	
		BALCONY	
SHARED		LOBBY	
		COMMUNAL CORRIDOR	
		COMMUNAL SPACE	
		DEEP SOIL	
		GREEN SPACE	
		RETAIL	
		ONE PLAYGROUND	
		PLANT ROOM	
		LOADING	
		SERVICES	

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Waterloo NSW 2017**

Country: Gadigal
Drawing Name
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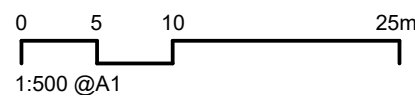
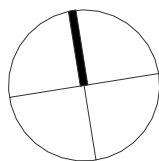
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	2 BED		3 BED
	3 BED		
	BALCONY		
SHARED	LOBBY		RETAIL
	COMMUNAL CORRIDOR		ONE PLAYGROUND
	COMMUNAL SPACE		PLANT ROOM
	DEEP SOIL		LOADING
	GREEN SPACE		SERVICES

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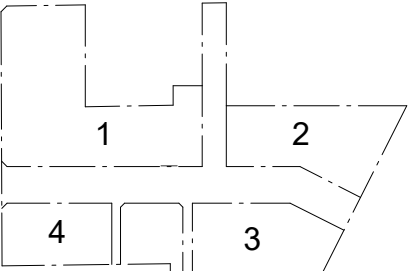
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BALCONY

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GREEN SPACE

RETAIL

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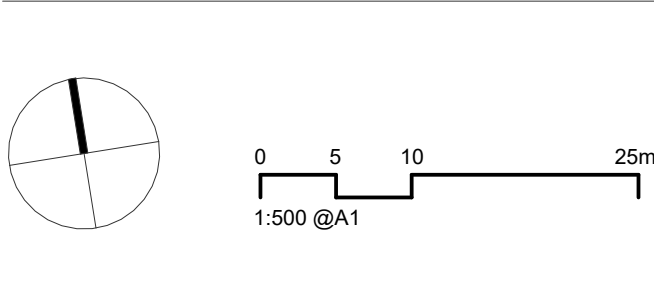
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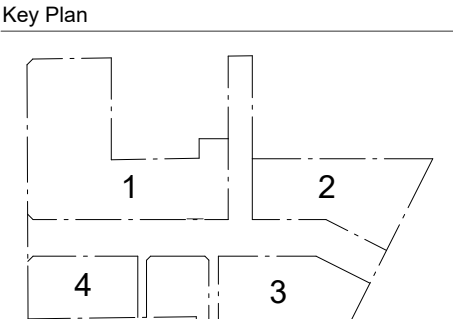


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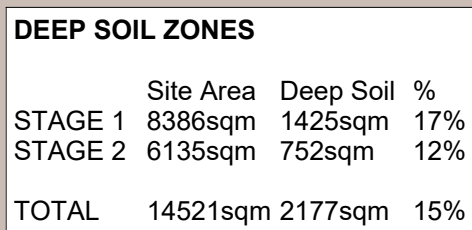
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CARWASH 5400x2400	1
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RESIDENTIAL SMALL 5400x2300	1
RETAIL 5500x2600	35
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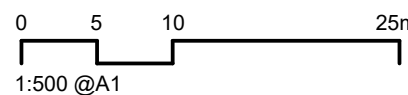
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CARWASH 5400x2400	1
RESIDENTIAL 5400x2400	130
SERVICE 3500x6500	2
SERVICE 3500x7500	1

P3: 141	141
P4	
ADAPTABLE 5400x3800	3
RESIDENTIAL 5400x2400	59
P4: 62	62
Grand total	517

P3: 141	141
P4	
ADAPTABLE 5400x3800	3
RESIDENTIAL 5400x2400	59
P4: 62	62
Grand total	517



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PRECINCT PLAN - BASEMENT 01

WL-AR-SSDA-PR-0320 / 4

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LOCATION	TOTAL

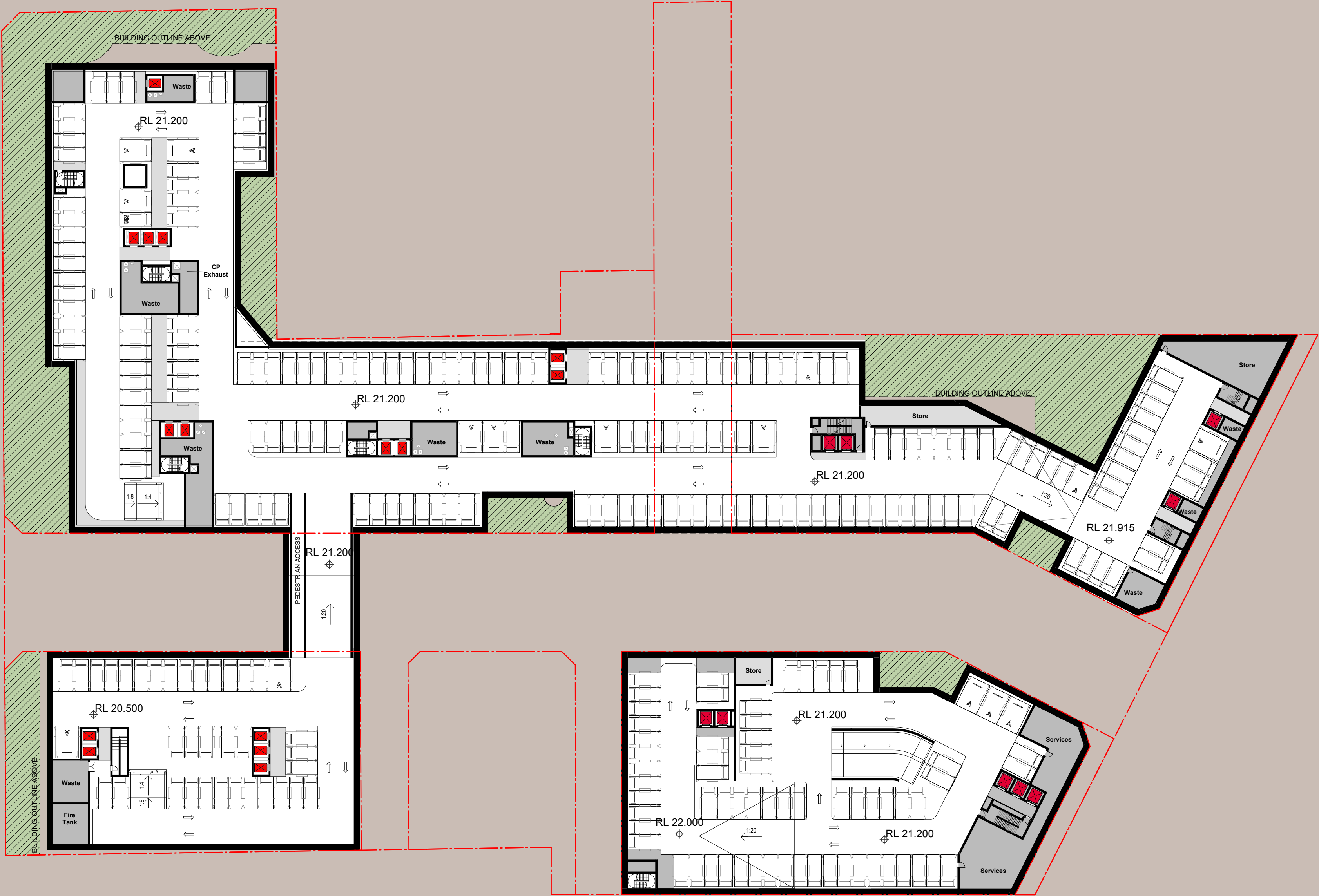
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RETAIL 5500x2600	35
RETAIL ACCESSIBLE 5500x2600	4
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RESIDENTIAL 5400x2400	80
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CARWASH 5400x2400	1
RESIDENTIAL 5400x2400	130
SERVICE 3500x6500	2
SERVICE 3500x7500	1
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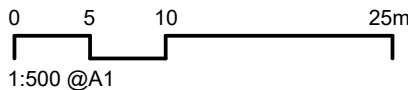
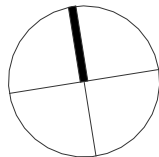
DEEP SOIL ZONES			
	Site Area	Deep Soil	%
STAGE 1	8386sqm	1425sqm	17%
STAGE 2	6135sqm	752sqm	12%
TOTAL	14521sqm	2177sqm	15%



DASCO BASEMENT 2
EXTENTS

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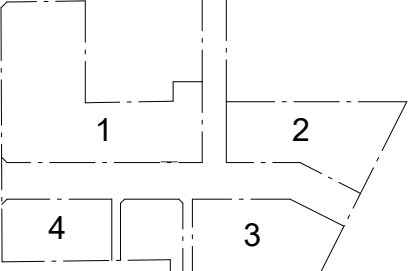


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WL-AR-SSDA-PR-0321

Revision

/ 1

Appendix C – Supporting Documentation from the Field Work



BOREHOLE LOG

BH ID: BH101M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	16 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 16 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.35 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247617.1417 (MGA 2020 Zone 56)	
				Easting	334427.1219 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	 16/05/2025 02:24 PM	BH101M_0.50-0.60		0.00		27.35	FILL: Clayey SAND: fine to medium grained, brown, pale grey, trace fine to medium sub-angular to angular gravels	M	-	FILL
		BH101M_1.50-1.95 SPT 1.50-1.95 1,1,3 N=4		1.80		25.55	SAND: fine to medium grained, brown			MARINE SOIL
		BH101M_4.50-4.95 SPT 4.50-4.95 1,0,1 N=1		4.70		22.65	From 4.70m, grey, brown, trace clay bands	W	VL	
WB		BH101M_6.00-6.30 SPT 6.00-6.30 11,16/150 mm HB N=R		6.00		21.35	Silty CLAY: high plasticity, brown and pale red, trace iron staining	M > PL	H	RESIDUAL SOIL
				7.00		20.35	Log continued on next page.			
				8						
				9						
				10						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH101M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	16 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 16 May 2025
Sheets	2 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈27.35 m (AHD)	Northing	6247617.1417 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334427.1219 (MGA 2020 Zone 56)

METHOD	FLUSH RETURN	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7			SANDSTONE: medium to coarse grained, grey, brown			7.05-9.40: XWZ	
NMLC	90%	100	50	8				DW			
				9							
				10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH101M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	16 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 16 May 2025
Sheets	3 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈27.35 m (AHD)	Northing	6247617.1417 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334427.1219 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
									VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
		100	100	10.00		17.35	From 10.00m, grey	FR		10.17: BP SM CN 10.21: BP SM CN 10.36: BP SM CN 10.46: Handling Break 10.90: Handling Break 11.26: JT 5° PR SM CN 11.42: BP SM CN 11.58: BP SM CN 11.63: BP SM CN 11.69: BP SM CN 11.76: JT 5° CU SM CN 11.92: Handling Break	
				11							
				12		15.25	Terminated at 12.10m. Target Depth Reached.				
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH101M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	16 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	16 May 2025
Sheets	1 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.35 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247617.1417 (MGA 2020 Zone 56)		
				Easting	334427.1219 (MGA 2020 Zone 56)		

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
	BH101M_0.50-0.60	0.00		27.35	FILL: Clayey SAND: fine to medium grained, brown, pale grey, trace fine to medium sub-angular to angular gravels	M	Sand 0.00m - 2.00m	Well Stickup =1.0m (RL 28.35m)
	BH101M_1.50-1.95 SPT 1.50-1.95 1,1,3 N=4	1.00						-1.0m - 3.0m PVC casing (50mm Ø)
		1.80		25.55	SAND: fine to medium grained, brown		Bentonite 2.00m - 2.50m	
		2.00						
		3.00						
		4.00				W	Sand 2.50m - 6.00m	
	BH101M_4.50-4.95 SPT 4.50-4.95 1,0,1 N=1	4.70		22.65	From 4.70m, grey, brown, trace clay bands			3.0m - 6.0m PVC screen (50mm Ø)
		5.00						
	BH101M_6.00-6.30 SPT 6.00-6.30 11,16/150 mm HB N=R	6.00		21.35	Silty CLAY: high plasticity, brown and pale red, trace iron staining	M > PL	Bentonite 6.00m - 7.00m	
		7.00		20.35	SANDSTONE: medium to coarse grained, grey, brown			
90%		8.00						
		9.00						
		10.00					Sand 7.00m - 12.10m	

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH101M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	16 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	16 May 2025
Sheets	2 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.35 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247617.1417 (MGA 2020 Zone 56)		
				Easting	334427.1219 (MGA 2020 Zone 56)		

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		10.00		17.35	From 10.00m, grey			
		11						
		12		15.25	Terminated at 12.10m. Target Depth Reached.			
		13						
		14						
		15						
		16						
		17						
		18						
		19						
		20						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH102M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	15 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	15 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 15 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.40 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247603.2356 (MGA 2020 Zone 56)	
				Easting	334478.2869 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	20/05/2025 03:24 PM ▼	BH102M_0.20-0.30	■	0.00		27.40	FILL: Clayey SAND: medium to coarse grained, orange, trace sandstone cobbles	M	-	FILL
		BH102M_0.50-0.95 SPT 0.50-0.95 4,5,8 N=13	■	0.50		26.90	From 0.50m, brown, orange			
		BH102M_1.50-1.95 SPT 1.50-1.95 3,2,2 N=4	■	1.50		25.90	Silty CLAY: high plasticity, pale-grey, mottled red, orange, trace iron staining	M > PL	S St VSt	RESIDUAL SOIL
		BH102M_2.50-2.60	■	2.50						
		BH102M_3.00-3.45 SPT 3.00-3.45 3,5,8 N=13	■	3.00						
▲				3.50		23.90	From 3.50m, grading into extremely weathered material			
				4.00						
		BH102M_4.50-4.95 SPT 4.50-4.95 6,11,14 N=25	■	4.50		22.90	From 4.50m, trace medium to coarse grained sand, grey			
				5.00						
				6.00						
				6.80		20.60	Log continued on next page.			
				7.00						
				8.00						
				9.00						
				10.00						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



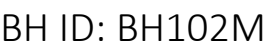
BOREHOLE CORE LOG

BH ID: BH102M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	15 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	15 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 15 May 2025
Sheets	2 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.40 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247603.2356 (MGA 2020 Zone 56)	
				Easting	334478.2869 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7			SANDSTONE: medium to coarse grained, grey, pale-red, orange, thinly bedded		▼	6.85-6.95: XWS	
		100	62	8				DW		7.40: BP SM CN 7.53: BP SM CN 7.57: BP SM CN 7.60-7.75: XWZ 7.93-8.15: XWZ	
				8.40		19.00	From 8.40m, dark grey			8.15-8.30: JT 50° CU SM CN 8.30-8.40: CS	
		100	98	8.80		18.60	From 8.80m, grey, mottled orange, thinly bedded		▼	8.50: JT 15° CU SM CN 8.55: BP SM CN 8.57: BP SM CN 8.67: BP SM CN 8.72: JT 5° CU SM CN 8.80: BP SM CN 8.83: BP SM CN 8.88: BP SM CN 8.96: BP SM CN	
				9							
				10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



Started	15 May 2025		
Completed	15 May 2025		
Logged By	MS	Date	15 May 2025
Review By	TW	Date	10 June 2025

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (mAHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
	90%	100	99	10.95		16.45	From 8.80m, grey, mottled orange, thinly bedded	FR	VL ₀₋₁ L ₀₋₃ M ₁ H ₃ VH ₁₀ EH	10.10: Handling Break 10.48: BP SM Clay VN 10.73: JT 5° CU SM CN	30 100 300 1000 3000
				12		14.84	Terminated at 12.56m. Target Depth Reached.				
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH102M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	15 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	15 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	15 May 2025
Sheets	2 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.40 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247603.2356 (MGA 2020 Zone 56)		
				Easting	334478.2869 (MGA 2020 Zone 56)		

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
90%					From 8.80m, grey, mottled orange, thinly bedded			
		10.95		16.45	From 10.95m, grey			
		12						
				14.84	Terminated at 12.56m. Target Depth Reached.		Sand 12.00m - 12.56m	8.0m - 12.0m PVC screen (50mm Ø)
		13						
		14						
		15						
		16						
		17						
		18						
		19						
		20						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH103

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	19 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 19 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.50 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247670.2713 (MGA 2020 Zone 56)	
				Easting	334638.7579 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T		BH103_0.50-0.95 SPT 0.50-0.95 3,4,5 N=9		0.00		27.50	ASPHALT: 500mm thick	M	-	ASPHALT
				0.50		27.00	FILL: SAND: fine to medium grained, brown, grey			FILL
		BH103_1.50-1.95 SPT 1.50-1.95 1,4,4 N=8		1.00		26.00	From 1.50m, dark brown			
				1.50		25.50	SAND: fine to medium grained, brown	W	MD	MARINE SOIL
		BH103_3.00-3.45 SPT 3.00-3.45 2,5,11 N=16		2.00						
		BH103_4.50-4.95 SPT 4.50-4.95 3,5,9 N=14		3.00		23.00	Silty CLAY: high plasticity, grey, pale red, trace ironstone gravels, trace fine to medium grained sand	M > PL	St	RESIDUAL SOIL
				4.50						
		BH103_6.00-6.35 SPT 6.00-6.35 8,11,7/50 mm N=R		5.00		20.90			H	
				6.00			Log continued on next page.			
				6.60						
				7.00						
				8.00						
				9.00						
				10.00						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH103

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	19 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 19 May 2025
Sheets	2 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈27.50 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247670.2713 (MGA 2020 Zone 56)	
				Easting	334638.7579 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7			SANDSTONE: medium to coarse grained, grey, pale-red, trace with iron staining, thinly bedded	DW	▼	6.86: BP SM CN 7.08: BP SM CN 7.14: BP SM CN 7.37: BP SM Clay VN 7.59: BP SM CN 7.69: JT SM Fe SN 7.72: JT SM Fe SN 7.74: BP SM CN 8.10-8.22: XWZ	
				8		19.50	NO CORE: 340mm thick			8.40: JT SM CN 8.52: BP SM Clay VN	
				8.34		19.16	SANDSTONE: medium to coarse grained, pale-red, grey, thinly bedded		▼		
				9						9.33: JT 5° PR SM CN	
				9.70		17.80	From 9.70m, grey		▼		
	90%			10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH103

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	16 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	19 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	19 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈27.50 m (AHD)	Northing	6247670.2713 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334638.7579 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m(AHD))	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
									VL ₀₋₁ L ₀₋₃ M ₁ H ₃ VH ₁₀ EH		30 100 300 1000 3000
	90%	100	100	11			From 9.70m, grey	FR		10.17: Handling Break 10.19: Handling Break 10.73: JT 5° PR SM SN 11.08: JT 5° CU SM CN 11.40: JT 5° CU SM Clay VN 11.70: BP SM CN 11.94: BP SM CN 11.97: Handling Break	
				12		15.40	Terminated at 12.10m. Target Depth Reached.				
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

BOREHOLE LOG

BH ID: BH104

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	19 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	19 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 19 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.40 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247671.6262 (MGA 2020 Zone 56)	
				Easting	334452.9422 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T		BH104_0.50-0.60		0.00		28.40	FILL: Gravelly SAND: fine to medium grained, brown, trace medium to coarse sub-angular to angular gravels		-	FILL
				0.30		28.10	SAND: fine to medium grained, brown			MARINE SOIL
		BH104_1.50-1.95 SPT 1.50-1.95 1,2,3 N=5		1				M	L	
		SPT 3.00-3.45 3,5,6 N=11		3						
		BH104_4.50-4.95 SPT 4.50-4.95 5,14,24 HB N=38		4					MD	
WB				4.90		23.50	From 4.90m, grey	W	D	
		BH104_6.00-6.45 SPT 6.00-6.45 4,2,1 N=3		6						
		BH104_7.50-7.95 SPT 7.50-7.95 8,2,6 N=8		7.50		20.90	Silty CLAY: high plasticity, grey, pale red, trace medium to coarse grained sand, trace ironstone gravels	M > PL	St	RESIDUAL SOIL
				9.00		19.40	Log continued on next page.			



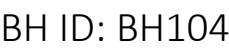
BOREHOLE CORE LOG

BH ID: BH104

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	19 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	19 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	19 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.40 m (AHD)	Northing	6247671.6262 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334452.9422 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9			SANDSTONE: medium to coarse grained, grey, pale red, thinly bedded		▼	9.23: BP SM Fe SN 9.28: BP SM CN 9.44: BP SM CN 9.54: BP SM CN	
	90%			10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



Started	19 May 2025		
Completed	19 May 2025		
Logged By	MS	Date	19 May 2025
Review By	TW	Date	10 June 2025

METHOD		NMLC		FLUSH RETURN		TCR %		RQD %		DEPTH (m)		GRAPHIC LOG		RL (mAHD)		MATERIAL DESCRIPTION		WEATHERING		ESTIMATED STRENGTH Is(50)		DISCONTINUITIES & ADDITIONAL DATA		FRACTURE SPACING	
				90%		100		98						16.35		SANDSTONE: medium to coarse grained, grey, pale red, thinly bedded				VL 0-1 L 0-3 M 1 H 3 VH 10 EH				30 100 300 1000 3000	
																Terminated at 12.05m. Target Depth Reached.									

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH105

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	12 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	12 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 12 May 2025
Sheets	1 of 4			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.30 m (AHD)	Northing	6247691.8935 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334520.4215 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	▽	BH105_0.20-0.30		0.00		29.30	FILL: SAND: fine grained, dark grey			FILL
		BH105_0.50-0.95 SPT 0.50-0.95 4,5,7 N=12		0.50		28.80	From 0.50m, brown, grey			
		BH105_1.40-1.50 BH105_1.50-1.95 SPT 1.50-1.95 3,4,5 N=9		1.00		28.30	From 1.00m, brown			
		BH105_2.50-2.60		2.00		27.30	From 2.00m, dark brown	M	-	
		BH105_3.00-3.45 SPT 3.00-3.45 3,3,2 N=5		3						
WB	▽	BH105_4.50-4.95 SPT 4.50-4.95 3,4,6 N=10		4.50		24.80	SAND: fine to medium grained, brown			MARINE SOIL
		BH105_6.00-6.45 SPT 6.00-6.45 6,3,4 N=7		6				W	L	
				6.30		23.00	From 6.30m, grey			
		BH105_7.50-7.80 SPT 7.50-7.80 4,7/150 mm HB N=R		7.00		22.30	Silty CLAY: high plasticity, brown, pale-grey, mottled yellow			RESIDUAL SOIL
				7.80		21.50	From 7.80m, pale-grey	M > PL	H	
				9.30		20.00	Log continued on next page.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH105

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	12 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	12 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	12 May 2025
Sheets	2 of 4			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.30 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247691.8935 (MGA 2020 Zone 56)		
				Easting	334520.4215 (MGA 2020 Zone 56)		

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9							
				10			SANDSTONE: medium to coarse grained, pale-grey, mottled red, with iron staining, thinly to medium bedded	XW DW XW		9.62-9.83: XWZ	

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH105

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	12 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	12 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	12 May 2025
Sheets	3 of 4			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.30 m (AHD)	Northing	6247691.8935 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334520.4215 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	ROD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50)					DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING				
									VL	L	M	H	VH		EH	30	100	300	1000
NMLC	90%	96	96	11		16.86	SANDSTONE: medium to coarse grained, pale-grey, mottled red, with iron staining, thinly to medium bedded	DW						9.97-10.02: XWS 10.16: BP SM SN 10.22-10.33: XWZ					
				12										10.71: JT 15° CU SM CN 10.88: Handling Break 11.05: Handling Break 11.19: JT 30° CU SM CN					
				12.44			From 12.44m, grey, mottled orange, thinly bedded							11.52: BP PR SM CN 11.68: JT 10° CU SM CN 11.87: BP PR SM CN 11.95: Handling Break					
				13										12.25: JT 10° PR SM CN 12.32-12.39: CS					
				14										12.67: BP SM CN 12.80-12.83: XWS 12.95: Handling Break					
				15										13.18: BP SM CN					
				15.57			From 15.57m, grey, thinly to medium bedded							13.56: Handling Break					
				16										13.87-13.94: XWS					
				17										14.16: JT 10° CU SM CN					
				18										14.65: JT -10° CU SM CN 14.72-14.89: XWZ					
				19										15.12: BP SM CN					
				20										15.72: BP SM CN 15.78: BP SM Clay VN					
				21										16.50: JT 10° CU SM CN					
				22										16.85: JT 10° CU SM CN 16.92: JT 10° CU SM CN 16.96: JT 5° CU SM CN					
				23										17.85: JT 15° CU SM CN					
				24										18.34: JT 10° CU SM CN					
				25										18.84: BP SM Clay VN 19.05: BP SM CN 19.24: BP SM CN					
				26										19.56: JT 10° CU SM CN 19.69: JT 10° CU SM CN 19.90: JT 15° CU SM CN					

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH105

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	12 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	12 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	12 May 2025
Sheets	4 of 4			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.30 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247691.8935 (MGA 2020 Zone 56)		
				Easting	334520.4215 (MGA 2020 Zone 56)		

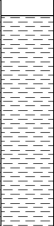
METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
									VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
						8.75	From 15.57m, grey, thinly to medium bedded			20.30: JT 10° PR SM CN 20.34: BP SM CN 20.44: BP SM-Clay VN	
				21			Terminated at 20.55m. Target Depth Reached.				
				22							
				23							
				24							
				25							
				26							
				27							
				28							
				29							
				30							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

BOREHOLE LOG

BH ID: BH106M

Location	Stage 1 & 2, Young and Danks Street, Waterloo	Started	14 May 2025
Client	Coronation Property Co. Pty Ltd	Completed	14 May 2025
Job No.	E26442.G03	Logged By	MS Date 14 May 2025
Sheets	1 of 3	Review By	TW Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers	Surface RL	≈29.35 m (AHD)
Plant	Hanjin D&B 8-D	Inclination	90°
		Northing	6247689.7843 (MGA 2020 Zone 56)
		Easting	334533.7047 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	▽	BH106M_0.50-0.60		0.00		29.35	FILL: Gravelly SAND: fine to medium grained, brown, trace fine to medium sub-angular to angular gravels			FILL
		BH106M_1.50-1.95 SPT 1.50-1.95 3,5,5 N=10		1.50		27.85	From 1.50m, brown, grey	M	-	
		BH106M_4.50-4.95 SPT 4.50-4.95 2,5,10 N=15		3.00		26.35	SAND: fine to medium, dark brown			MARINE SOIL
		BH106M_7.50-7.95 SPT 7.50-7.95 5,6,12 N=18		7.50		21.85	Silty CLAY: high plasticity, brown, pale-grey, mottled red, trace ironstone gravels	M > PL	VSt	RESIDUAL SOIL
WB	11/05/2025 11:23 AM ▼			9.00		20.35	Log continued on next page.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH106M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	14 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	14 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	14 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.35 m (AHD)	Northing	6247689.7843 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334533.7047 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m(AHD))	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9			SANDSTONE: medium to coarse grained, grey, red, mottled orange, thinly bedded		▼	9.06: BP SM CN 9.23: BP SM CN 9.38: BP SM CN 9.45: BP SM CN 9.47: BP SM CN 9.86: BP SM CN	
	90%			10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH106M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	14 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	14 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	14 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.35 m (AHD)	Northing	6247689.7843 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334533.7047 (MGA 2020 Zone 56)	

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m(AHD))	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
NMLC	90%	97	97	11			SANDSTONE: medium to coarse grained, grey, red, mottled orange, thinly bedded	FR	VL 0-1 L 0-3 M 1 H 3 VH 10 EH	10.23: Handling Break 10.65: JT 5° CU SM CN 10.70: JT 5° CU SM CN 10.77: BP SM CN 11.18: Handling Break 11.26: Handling Break 11.76: Handling Break 11.97: BP SM CN	30 100 300 1000 3000
				12		17.25	Terminated at 12.10m. Target Depth Reached.				
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH106M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	14 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	14 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	14 May 2025
Sheets	1 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.35 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247689.7843 (MGA 2020 Zone 56)		
				Easting	334533.7047 (MGA 2020 Zone 56)		

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
	BH106M_0.50-0.60	0.00		29.35	FILL: Gravelly SAND: fine to medium grained, brown, trace fine to medium sub-angular to angular gravels			Well Stickup =1.0m (RL 30.35m)
	BH106M_1.50-1.95 SPT 1.50-1.95 3,5,5 N=10	1.50		27.85	From 1.50m, brown, grey	M		
	BH106M_4.50-4.95 SPT 4.50-4.95 2,5,10 N=15	3.00		26.35	SAND: fine to medium, dark brown			
	BH106M_7.50-7.95 SPT 7.50-7.95 5,6,12 N=18	7.50		21.85	Silty CLAY: high plasticity, brown, pale-grey, mottled red, trace ironstone gravels	M > PL		
90%		9.00		20.35	SANDSTONE: medium to coarse grained, grey, red, mottled orange, thinly bedded			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH106M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	14 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	14 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	14 May 2025
Sheets	2 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.35 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247689.7843 (MGA 2020 Zone 56)		
				Easting	334533.7047 (MGA 2020 Zone 56)		

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
90%		11		17.25	SANDSTONE: medium to coarse grained, grey, red, mottled orange, thinly bedded		Sand 8.50m - 12.10m	9.10m - 12.10m PVC screen (50mm Ø)
		12			Terminated at 12.10m. Target Depth Reached.			
		13						
		14						
		15						
		16						
		17						
		18						
		19						
		20						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH107

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	19 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	20 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 20 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.65 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247704.2535 (MGA 2020 Zone 56)	
				Easting	334481.7340 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T		BH107_0.20-0.30		0.00		28.65	FILL: Gravelly SAND: fine to medium grained, brown, trace fine to medium sub-angular to angular gravels			FILL
		BH107_0.50-0.95 SPT 0.50-0.95 4,4,5 N=9		0.80		27.85	SAND: fine to medium grained, brown	M		MARINE SOIL
WB	▽	BH107_3.00-3.45 SPT 3.00-3.45 2,2,3 N=5		3.00		25.35	From 3.30m, dark grey		L	
				3.30						
		BH107_6.00-6.45 SPT 6.00-6.45 6,13,14 N=27		6.00				W		
				7.00					MD	
		BH107_8.00-8.45 SPT 8.00-8.45 6,3,8 N=11		8.00		20.65	From 8.00m, medium to coarse grained, grey, pale red, brown	M	MD	
				9.00		19.65				
				10.00			Log continued on next page.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH107

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	19 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	20 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	20 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.65 m (AHD)	Northing	6247704.2535 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334481.7340 (MGA 2020 Zone 56)	

METHOD	FLUSH RETURN	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9			SANDSTONE: medium to coarse grained, grey, pale red, thinly bedded			9.20: BP SM CN 9.23: BP SM CN 9.38: BP SM CN 9.80: JT 5° PR SM CN	
	90%			10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH107

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	19 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	20 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	20 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.65 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247704.2535 (MGA 2020 Zone 56)		
				Easting	334481.7340 (MGA 2020 Zone 56)		

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
NMLC	90%	100	97	11			SANDSTONE: medium to coarse grained, grey, pale red, thinly bedded	FR	VL ₀₋₁ L ₀₋₃ M ₁ H ₃ VH ₁₀ EH	10.08: BP SM CN 10.24-10.29: XWS 10.35: JT 5° CU SM CN 10.59: JT 5° CU SM CN 10.67: JT 5° PR SM CN 10.78: JT 5° CU SM CN 10.94: JT 5° PR SM CN 11.12: BP SM CN 11.30: JT 10° PR SM CN 11.38: JT 15° CU SM CN 11.46: BP SM CN 11.53: BP SM CN 11.82: BP SM CN 11.84: BP SM CN	30 100 300 1000 3000
				12		16.65	Terminated at 12.00m. Target Depth Reached.				
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH108

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	14 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	15 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	15 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.60 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247648.7080 (MGA 2020 Zone 56)		
				Easting	334494.9495 (MGA 2020 Zone 56)		

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m(AHD))	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8			Silty CLAY: high plasticity, grey, pale-red, mottled orange, grading into weathered rock, trace ironstone gravels	XW - DW			
NMLC	90%	100	0	8.40		20.20	SANDSTONE: medium to coarse grained, grey, pale-grey, mottled orange, thinly bedded			8.45-8.49: CS 8.82-8.86: XWS 9.10: Handling Break 9.25: Handling Break 9.47-9.53: XWS 9.47: BP SM CN 9.87: BP SM CN	
				9							
				10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH108

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	14 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	15 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	15 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.60 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247648.7080 (MGA 2020 Zone 56)		
				Easting	334494.9495 (MGA 2020 Zone 56)		

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
		94	88						VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				11			SANDSTONE: medium to coarse grained, grey, pale-grey, mottled orange, thinly bedded	FR	▼	10.48: BP SM CN 10.80: Handling Break 10.90: JT 5° PR SM CN 11.12: BP SM CN	
				17.00			Terminated at 11.60m. Target Depth Reached.		▼		
				12							
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH109M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	21 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	21 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 21 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.50 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247740.5811 (MGA 2020 Zone 56)	
				Easting	334460.6112 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T		BH109M_0.50-0.95 SPT 0.50-0.95 3,6,4 N=10		0.00		28.50	FILL: Gravelly SAND: fine to medium grained, brown, trace fine to medium sub-angular to angular gravels			FILL
				1.50		27.00	SAND: fine to medium grained, brown	M		MARINE SOIL
		BH109M_3.00-3.45 SPT 3.00-3.45 1,2,4 N=6		3.00					L	
WB				4.50		24.00	From 4.50m, grey			
		BH109M_6.00-6.45 SPT 6.00-6.45 1,5,10 N=15		6.00				W		
				8.00					MD	

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH109M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	21 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	21 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	21 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.50 m (AHD)	Northing	6247740.5811 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334460.6112 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
				10.00		18.50	Silty CLAY: high plasticity, dark grey, grey, trace with medium to coarse sand			RESIDUAL SOIL
				11						
				12.00		16.50	Log continued on next page.			
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						



BOREHOLE CORE LOG

BH ID: BH109M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	21 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	21 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	21 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.50 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247740.5811 (MGA 2020 Zone 56)		
				Easting	334460.6112 (MGA 2020 Zone 56)		

METHOD	FLUSH RETURN	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				10			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				11							
				12			SANDSTONE: medium to coarse grained, dark grey, grey	FR	▼	12.07: JT 5° PR SM CN 12.40: BP SM Clay VN 12.47: JT 5° PR SM CN 12.84: JT 5° PR SM CN 12.91: BP SM CN 13.04: Handling Break	
NMLC	90%	97	35	13		15.40	Terminated at 13.10m. Target Depth Reached.		▼		
				14							
				15							
				16							
				17							
				18							
				19							
				20							

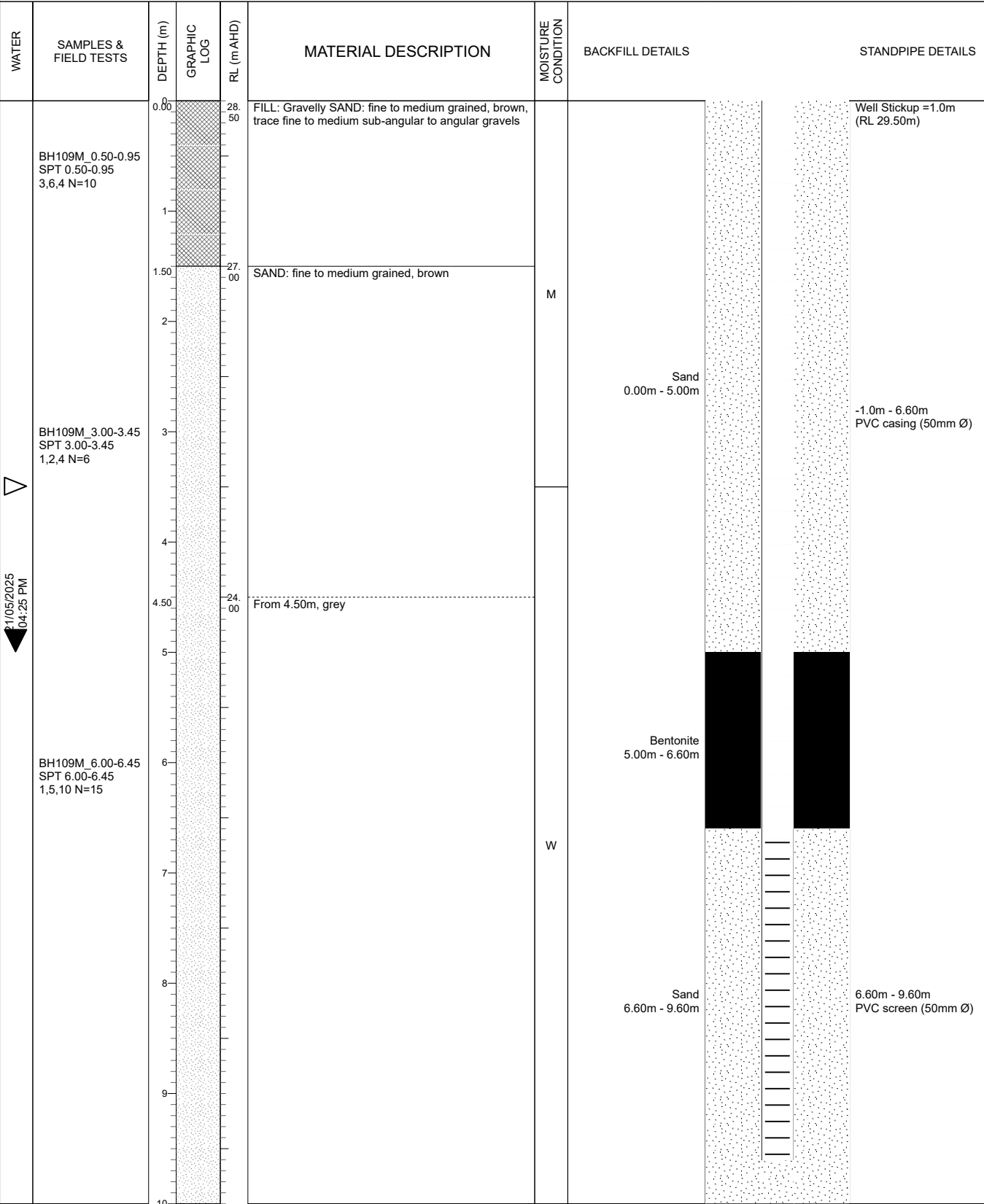
This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH109M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	21 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	21 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	21 May 2025
Sheets	1 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈28.50 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247740.5811 (MGA 2020 Zone 56)		
				Easting	334460.6112 (MGA 2020 Zone 56)		



This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH109M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	21 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	21 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 21 May 2025
Sheets	2 of 2			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.50 m (AHD)	Northing	6247740.5811 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334460.6112 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
90%		10.00		18.50	Silty CLAY: high plasticity, dark grey, grey, trace with medium to coarse sand			
		11.00		16.50	SANDSTONE: medium to coarse grained, dark grey, grey			
		12.00		15.40	Terminated at 13.10m. Target Depth Reached.			
		13.00						
		14.00						
		15.00						
		16.00						
		17.00						
		18.00						
		19.00						
		20.00						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH110

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	20 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	20 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 20 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.65 m (AHD)	Northing	6247749.4409 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334477.5884 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	▽	BH110_0.50-0.60	█	0.00		28.65	FILL: SAND: fine to medium grained, grey			FILL
		BH110_1.00-1.10	█	1.00		27.65	From 1.00m, brown, trace fine to medium sub-angular to angular ironstone gravels	M	-	
WB		BH110_1.50-1.95 SPT 1.50-1.95 2,2,2 N=4	█	2.00		26.65	SAND: fine to medium grained, brown			MARINE SOIL
		BH110_4.50-4.95 SPT 4.50-4.95 3,7,11 N=18	█	4.00		25.25	From 3.40m, dark grey	MD		
		BH110_7.50-7.80 SPT 7.50-7.80 12,23/150 mm HB N=R	█	7.50				W		
				8.00					VD	
				9.00						
				10.00						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH110

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	20 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	20 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	20 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.65 m (AHD)	Northing	6247749.4409 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334477.5884 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
				10.00		18.65	NO CORE: 550mm thick			
				10.55		18.10	Log continued on next page.			
				11						
				12						
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						



BOREHOLE CORE LOG

BH ID: BH110

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	20 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	20 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 20 May 2025
Sheets	3 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈28.65 m (AHD)	Northing	6247749.4409 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334477.5884 (MGA 2020 Zone 56)

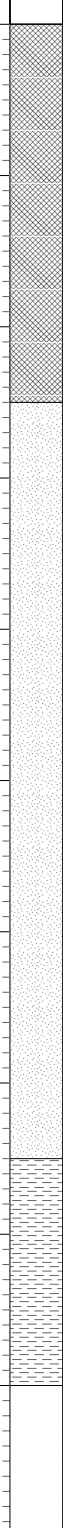
METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m(AHD))	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				10			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
NMLC	80%	100	80	11			SANDSTONE: medium to coarse grained, grey, thinly to medium bedded	FR	▼	10.75: BP SM CN 11.10: BP SM CN 11.13: BP SM CN 11.35: BP SM CN 11.50: JT 30° CU SM CN 11.63: BP SM CN 11.73: BP SM CN 11.79: JT 5° CU SM CN 11.81: JT 5° CU SM CN 12.70: JT 5° CU SM CN 12.84: BP SM CN 13.10: BP SM CN 13.18: BP SM CN 13.39: JT 15° CU SM CN 13.45: BP SM CN 13.79: BP SM Clay VN 14.07: Handling Break 14.10: BP SM CN 14.24: BP SM CN 14.30-14.35: CS 14.62: JT 5° PR SM CN 14.75: BP SM CN	
	90%	100	100	12					▼		
				13		13.85	Terminated at 14.80m. Target Depth Reached.		▼		
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

BOREHOLE LOG

BH ID: BH111

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 13 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.65 m (AHD)	Northing	6247689.4556 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334542.8497 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS	
AD/T	▽	BH111_0.50-0.95 SPT 0.50-0.95 1,3,4 N=7		0.00		29.65	FILL: SAND: fine grained, brown, trace fine to medium sub-angular to angular gravels, trace geofabric	M	-	FILL	
			0.50	29.15		From 0.50m, brown					
		BH111_1.50-1.95 SPT 1.50-1.95 0,0,0 N=0		1							
			2								
			2.50	27.15		SAND: fine to medium grained, dark brown	MARINE SOIL				
		BH111_3.00-3.45 SPT 3.00-3.45 7,9,10 N=19		3					W	MD	
		BH111_3.70-3.80		3.50		26.15	From 3.50m, brown				
			4								
		BH111_4.50-4.95 SPT 4.50-4.95 5,9,14 N=23		5							
			6								
WB		BH111_6.00-6.45 SPT 6.00-6.45 1,1,1 N=2		6				VL			
			7								
		BH111_7.50-7.95 SPT 7.50-7.95 5,4,5 N=9		7.50	22.15	Silty CLAY: high plasticity, brown, pale-grey, red, trace ironstone gravels	RESIDUAL SOIL				
			8								
				9.00		20.65	Log continued on next page.				

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH111

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	13 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.65 m (AHD)	Northing	6247689.4556 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334542.8497 (MGA 2020 Zone 56)	

METHOD	FLUSH RETURN	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9			SANDSTONE: medium to coarse grained, grey, mottled red	DW			
	90%			10							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH111

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	13 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.65 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247689.4556 (MGA 2020 Zone 56)		
				Easting	334542.8497 (MGA 2020 Zone 56)		

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral						DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING				
NMLC	90%	100	83				SANDSTONE: medium to coarse grained, grey, mottled red	FR	VL	L	M	H	VH	EH	10.07: Handling Break 10.47-10.50: XWS 10.85: Handling Break 10.96: Handling Break 11.15: BP SM CN	30	100	300	1000	3000
						17.65			Terminated at 12.00m. Target Depth Reached.											
				11																
				12																
				13																
				14																
				15																
				16																
				17																
				18																
				19																
				20																

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE LOG

BH ID: BH112M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 13 May 2025
Sheets	1 of 3			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.75 m (AHD)	
Plant	Hanjin D&B 8-D			Inclination	90°	
				Northing	6247727.2993 (MGA 2020 Zone 56)	
				Easting	334553.3462 (MGA 2020 Zone 56)	

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	4/05/2025 02:33 PM ▼	BH112M_0.30-0.40		0.00		29.75	FILL: ASPHALT: 200mm thick			ASPHALT
		BH112M_0.50-0.95 SPT 0.50-0.95 6,15,15 N=30		0.20		29.55	FILL: SAND: medium to coarse grained, brown, pale-grey			FILL
		BH112M_1.10-1.20		0.50		29.25	FILL: ASPHALT: 500mm thick			
		BH112M_1.50-1.95 SPT 1.50-1.95 2,5,6 N=11		1.00		28.75	FILL: SAND: medium to coarse grained, brown, trace fine to medium sub-angular to angular gravels	M	-	
		BH112M_2.50-2.60		2.00		27.75	SAND: fine to medium grained, brown			MARINE SOIL
		BH112M_3.00-3.45 SPT 3.00-3.45 2,3,4 N=7		3					L	
		BH112M_4.50-4.95 SPT 4.50-4.95 3,5,9 N=14		4						
		BH112M_6.00-6.45 SPT 6.00-6.45 7,10,13 N=23		5				W		
		BH112M_9.00-9.45 SPT 9.00-9.45 6,5,17 HB N=22		6					MD	
				7						
WB				8						
				9						
				9.00		20.75	From 9.00m, brown, pale-grey, with clay bands			
				9.50		20.25	Log continued on next page.			
				10						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH112M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	13 May 2025
Sheets	2 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.75 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247727.2993 (MGA 2020 Zone 56)		
				Easting	334553.3462 (MGA 2020 Zone 56)		

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m(AHD))	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
				0			Log continued from previous page.		VL 0-1 L 0-3 M 1 H 3 VH 10 EH		30 100 300 1000 3000
				1							
				2							
				3							
				4							
				5							
				6							
				7							
				8							
				9							
				10			SANDSTONE: medium to coarse grained, brown, grey		▼	9.70-9.83: CZ	

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



BOREHOLE CORE LOG

BH ID: BH112M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	13 May 2025
Sheets	3 of 3			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.75 m (AHD)	Northing	6247727.2993 (MGA 2020 Zone 56)	
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334553.3462 (MGA 2020 Zone 56)	

METHOD	FLUSH RETURN	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING
									VL 0-1 L 0-3 M 1 H 3 VH 10 EH		
NMLC	90%	100	71	11			SANDSTONE: medium to coarse grained, brown, grey	DW		10.10: BP SM CN 10.24: JT 5° PR SM CN 10.44: JT 10° CU SM CN 10.63-10.70: XWS 11.10-11.28: XWZ 11.39: BP SM CN 11.54: BP SM CN	30 100 300 1000 3000
		100	98	12		17.50	Terminated at 12.25m. Target Depth Reached.	FR			
				13							
				14							
				15							
				16							
				17							
				18							
				19							
				20							

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH112M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025		
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025		
Job No.	E26442.G03			Logged By	MS	Date	13 May 2025
Sheets	1 of 2			Review By	TW	Date	10 June 2025
Drilling Contractor	Geosense Drilling Engineers			Surface RL	≈29.75 m (AHD)		
Plant	Hanjin D&B 8-D			Inclination	90°		
				Northing	6247727.2993 (MGA 2020 Zone 56)		
				Easting	334553.3462 (MGA 2020 Zone 56)		

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
	BH112M_0.30-0.40 BH112M_0.50-0.95 SPT 0.50-0.95 6,15,15 N=30	0.00 0.20 0.50		29.75 29.65 29.55	FILL: ASPHALT: 200mm thick			
	BH112M_1.10-1.20	1.00		28.75	FILL: SAND: medium to coarse grained, brown, trace fine to medium sub-angular to angular gravels	M		
	BH112M_1.50-1.95 SPT 1.50-1.95 2,5,6 N=11	2.00		27.75	SAND: fine to medium grained, brown		Sand 0.00m - 4.50m	Well Stickup =1.0m (RL 30.75m)
	BH112M_2.50-2.60	3						-1.0m - 5.50m PVC casing (50mm Ø)
	BH112M_3.00-3.45 SPT 3.00-3.45 2,3,4 N=7	4						
	BH112M_4.50-4.95 SPT 4.50-4.95 3,5,9 N=14	5					Bentonite 4.50m - 5.00m	
	BH112M_6.00-6.45 SPT 6.00-6.45 7,10,13 N=23	6				W		
	BH112M_9.00-9.45 SPT 9.00-9.45 6,5,17 HB N=22	9.00		20.75	From 9.00m, brown, pale-grey, with clay bands		Sand 5.00m - 8.50m	5.50m - 8.50m PVC screen (50mm Ø)
90%		9.50		20.25	SANDSTONE: medium to coarse grained, brown, grey			
		10						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.



MONITORING WELL LOG

BH ID: BH112M

Location	Stage 1 & 2, Young and Danks Street, Waterloo			Started	13 May 2025	
Client	Coronation Property Co. Pty Ltd			Completed	13 May 2025	
Job No.	E26442.G03			Logged By	MS	Date 13 May 2025
Sheets	2 of 2			Review By	TW	Date 10 June 2025
Drilling Contractor	Geosense Drilling Engineers		Surface RL	≈29.75 m (AHD)	Northing	6247727.2993 (MGA 2020 Zone 56)
Plant	Hanjin D&B 8-D		Inclination	90°	Easting	334553.3462 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
90%		11			SANDSTONE: medium to coarse grained, brown, grey		Sand 8.50m - 12.25m	
		12			Terminated at 12.25m. Target Depth Reached.			
		13						
		14						
		15						
		16						
		17						
		18						
		19						
		20						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

Appendix D – Tables of the Laboratory Analytical Results

Sample ID	Sampling Date	Lab pH
Laboratory Analytical Results		
BH101M_4.5-4.95	16/05/2025	8.1
BH101M_6.0-6.3		4.5
BH102M_3.0-3.45	15/05/2025	5.3
BH103_0.5-0.95	16/05/2025	7.9
BH108_1.5-1.95	14/05/2025	7.7
BH110_1.5-1.95	20/05/2025	5.1
BH111_3.7-3.8	13/05/2025	6.0
BH112M_2.5-2.6		7.2
BH106M_4.5-4.95	14/05/2025	6.7
Statistical Analysis		
Minimum		4.50
Maximum		8.10
SILs		
Field pH Indicator of AASS	≤ 4 actual ASS are present	
	> 4 may indicate absence of actual ASS.	

Notes:
PH Field Indicators (ASSMAC 1998)
pH – Lab pH



Table D2 - Summary of Baseline Groundwater Quality - Analytical Results and Physiochemical Characteristics

Sample ID	Sampling Date	Flouride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Bromide (mg/L)	Electrical Conductivity (Lab EC) (µs/cm)	pH (lab)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)
Groundwater Investigation (EI, 2025)											
BH101M-1	27/5/2025	N.A.	N.A.	N.A.	N.A.	860	5.5	64	12	N.A.	N.A.
BH102M-1		<0.1	220	13	<0.05	740	4.6	7.5	14	71	9.1
BH106M-1		N.A.	N.A.	N.A.	N.A.	1200	6.3	64	16	N.A.	N.A.
BH109M-1		<0.1	30	18	0.29	250	5.5	16	5.3	24	6
BH112M-1		N.A.	N.A.	N.A.	N.A.	420	6.1	49	5.3	N.A.	N.A.
Guidelines											
Discharge Water Quality Criteria							6.5-8.4				

Notes:

NA = Not Analysed

Discharge Water quality criteria are based on the ANZG, 2018 (Rev. Jan 2024) 95% marine water DGVs. In the absence of ANZG (2018) criteria for pH, the ANZECC

	Highlighted value does not meet the adopted criteria
	No relevant criteria are currently available