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Preliminary Geotechnical Assessment

487 Raymond Terrace Road, Chisholm, NSW

Avid Property Group Pty Ltd Level 5, 7 Macquarie Place Sydney NSW 2000

30 August 2021

Our Ref: EP1995

LIMITATIONS

This Preliminary Geotechnical Assessment was conducted for Avid Property Group Pty Ltd for the purpose/s stated in **Section 1**

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It is not possible in a Preliminary Geotechnical Assessment to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

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1 Introduction

1.1 Overview

EP Risk Management Pty Ltd (EP Risk) was engaged by Avid Property Group Pty Ltd (Avid) to undertake a Preliminary Geotechnical Assessment (the Assessment) of a property located at 487 Raymond Terrace Road, Chisholm, New South Wales (NSW) (the Site). The Site location and regional map is illustrated in **Figure 1**.

It is understood that the Site is proposed to be redeveloped into a low-density residential housing development (Proposed Development) and that the Assessment is required for due diligence purposes.

1.2 Objective

The objective of the Assessment is to assess the subsurface profile conditions at the Site to provide preliminary geotechnical advice regarding the Proposed Development and identify any potential geotechnical constraints, provide preliminary pavement advice and preliminary site classifications as part of the due diligence along with recommendations on processing of brick and other masonry waste dumped on site. This assessment was undertaken concurrently with a Detailed Site Investigation (detailed contamination assessment) also for due diligence purposes and reported under separate title, reference EP1995.002 Avid_Chisholm_DSI_v0.1.

1.3 Scope of Work

The scope of work completed to achieve the objectives included:

- A site walkover and inspection to observe on-site and off-site conditions and determine locations for subsurface investigations.
- Excavation of 142 test pits and 25 boreholes at grid and targeted based sampling locations across
 the Site to a maximum depth of 2.0 metres below ground level (m BGL).
- Sampling of representative subsurface / subgrade materials encountered during investigation.
- Based on the results of field investigations and analytical testing, prepare a Preliminary Geotechnical Report in accordance with the relative guidelines for pavement thickness design in accordance with Maitland City Council (Council).
- Preliminary site classification accordance with Australian Standard AS2870-2011 residential slabs and footings.
- Provide comment on any potential geotechnical constrains observed during site inspection and subsurface investigations.



2 Site Description

2.1 Site Identification

The Site Identification details are presented in **Table 1**.

Table 1 – Site Identification				
Item	Description			
Address	487 Raymond Terrace Road, Chisholm, NSW (Figure 1)			
Legal description	Lot 4 in Deposited Plan (DP) 1145348			
Approximate Area	38.7733 hectares (ha)			
Municipality	Maitland City Council (Council)			
Zoning	The Maitland local environment plan (LEP) 2011 identifies the Site as R1 – General Residential and E3 Environmental Management.			

2.2 Site Inspection and Observations

The Site comprises of a large rectangular shaped allotment located on the northern side of Raymond Terrace Road, with surrounding land consisting of a mix of residential and rural land use. The land use comprised of a former quarry area in the central portion of the Site with the landform highly disturbed. The Site was cleared of vegetation in the central portion (quarry area) with a deep excavation undertaken to source clay for brickmaking. The perimeter of the quarry had various stockpiles of overburden with brick and tile waste scattered through the overburden which was more prevalent on the western and northern perimeter of the excavation. Bricks had also been used as scour protection in the northern area of the quarry perimeter. The southern portion of the Site comprised of open woodland of predominantly juvenile to semi mature eucalypts with the understorey maintained by slashing with sparse grass cover. There has been dumping of masonry products predominantly comprising broken brick with some tile and minor refractory material in the front (southern portion) of the site. Some of the masonry waste has been placed in the access tracks and other just placed in in clearings.

The eastern portion and northern (E3 Zone) of the site has more scrubby undergrowth both native an exotic and more mature native trees with a denser ground cover. The Site is located within an area of R1 General Residential zoned land and E3 Environmental Management. A Principal Geotechnical Scientist from EP Risk undertook a site inspection on 2nd March 2021 comprising of a site walkover and visual assessment to determine suitable locations for subsurface investigations. The Site has a gently sloping (6°) gradient toward the north with an approximate elevation of 38 m Australian Height Datum (m AHD) in the southern portion of the Site and an elevation of 4 m AHD in the northern eastern corner of the Site. Site drainage is considered to consist of surface runoff migrating across the Site following surface contours as overland flow and drainage to an ephemeral drainage line that drains to the north along the western boundary and then to the northeast corner of the Site beyond the quarry. Onsite drainage is considered to discharge into Saltwater Gully located to the northwest of the Site. Photographs of main Site features are presented in the photolog attached as **Appendix A**.



3 Investigation Methodology

3.1 Fieldwork

Fieldwork comprised of a site walkover and intrusive investigation with collection of soil samples from 142 test pits and 25 boreholes at grid and targeted based sampling locations across the Site to a maximum depth of 2.0 m BGL or prior refusal on rock or terminated once residual soil was encountered. Dynamic Cone Penetrometer (DCP) tests were undertaken adjacent to selected test pits/ boreholes to aid in determining the strength of the subgrade.

All fieldwork including logging of subsurface profiles and collection of samples was carried out by and in the presence of a geotechnical engineer from EP Risk. Test pits were located by handheld GPS from a k.m.z file and the approximate locations are shown on **Figure 2a, 2b** and **2c**.

Subsurface conditions are summarised in Section 4.3 and detailed in engineering logs in Appendix B.

3.2 Laboratory Testing

Limited laboratory testing on selected soil samples recovered during fieldwork comprised of the following:

- Four (4) four-day-soaked California Bearing Ratio (CBR) tests to assess subgrade strength.
- Four (4) shrink swell index (Iss) test.
- Three (3) aggressivity tests.
- Three (3) Emerson Class Test.
- Three (3) Atterberg Limits Tests.
- Three (3) Particle Size Density (PSD)

Results of laboratory testing are detailed in the report sheets attached in **Appendix C** and summarised in **Section 4.4** of this report.



4 Investigation Findings

4.1 Published Data

Based on the information contained in the Newcastle Coalfield Regional Geological Map 9231 (Edition 1, 1995) the Site is underlain by the late Palaeozoic aged Maitland Group Mulbring Siltstone (Pmm) which typically comprises siltstone and sandstone and soils weathered from the parent rocks. Based on the soil landscapes data sourced from the NSW Office of Environment and Heritage (OEH) the Site is located within Beresfield (majority of the Site), and Hunter (far northeast corner) soil landscapes.

4.2 Mining Subsidence

With reference to the Mining Subsidence District Data Source (2016), the Site is not located within a mining subsidence district and no underground mining is shown on the NSW Planning Portal. Underground mining is known to have occurred in the Tomago Coal Measure to the west of the site.

4.3 Subsurface Conditions

The subsurface conditions encountered in the test pits advanced across the Site are detailed in the report log sheets, attached in **Appendix B** with locations shown on **Figure 2**. A summary of subsurface conditions is presented in **Appendix E**. Geotechnical Units are summarised as follows:

Table	2 – Geotechnical L	Inits	
Unit	Material	Description / Depth Encountered	Comment
1a	Topsoil	Silty Clayey SAND / Silty SAND / Sandy SILT from 0.0 to 0.3 m BGL	-
1b	Fill	Sandy Gravelly CLAY / Silty SAND with gravel, stockpiles range from 0.1 m to 3.0 m in height. Silty SAND with gravel / Silty Clayey SAND, encountered across the entire Site containing brick, tiles and other anthropogenic materials.	Anthropogenic material (Brick and tiles) within stockpiles SP08, SP09, SP12, SP13, SP15, SP17 and SP18. Maximum depth encountered of 0.5 m BGL within TP125.
2a	Residual	Sandy CLAY/Sandy Silty CLAY from 0.1 to greater than 1.5 m BGL.	Medium to high plasticity residual clay, predominantly stiff to very stiff.
3a	XW Sandstone	Encountered in the R1 zoned area of the site.	Extremely weathered of very low strength to low strength. Encountered from 0.8 m BGL to greater than 1.0 m BGL.
3b	XW Siltstone	Encountered in the Quarry area of the Site.	Extremely weathered of very low strength to low strength, encountered from 0 m BGL to 0.5 m BGL.

A general summary of the subsurface conditions encountered across the site is presented in Appendix E.

A general summary of the stockpiles encountered across the Site is presented in **Appendix F**, the locations of these stockpiles are presented in **Figure 3a** and **Figure 3b**.

The extent of brick and tile anthropogenic material within the fill encountered across the Site is presented in **Figure 4a** and **Figure 4b**. The estimated total volume of brick and tile anthropogenic material encountered



across the Site within the test pits, boreholes and stockpiles has been approximated to be equivalent to 10,600 cubic meters¹.

Groundwater/seepage was not encountered in any of the test pits advanced across the Site at the time of fieldwork. It should be noted that groundwater levels are likely to fluctuate with variations in climatic and Site conditions.

The sandstone and shale bedrock encountered during test pitting was initially extremely weathered and ranged from predominantly very low strength to low strength. Higher strength rock could be expected at greater depth than investigation limits, however, is not expected to pose excavation issues with large capacity equipment based on experience on proximate development within the same formation.

Detailed soil profile logs are attached as Appendix B.

4.4 Laboratory Results

4.4.1 CBR Results

Results of laboratory CBR results are detailed in report sheets attached in **Appendix C** and summarised in **Table 3**.

Table 3 – Summary Laboratory CBR Test Results							
Test Pit ID	Depth (m BGL)	Material Description	W² (%)	SOMC³ (%)	SMDD ⁴ (t/m ³)	Swell (%)	CBR⁵ (%)
TP04	0.5 – 0.8	Sandy CLAY	24.1	27.5	1.45	2.5	1.5 ⁵
TP07	0.5 – 1.0	Sandy CLAY	33.0	27.5	1.45	2.0	1.5 ⁶
TP23	0.5 – 1.0	Sandy CLAY	22.1	24.5	1.56	2.0	3.0 ⁵
TP28	0.5 – 1.0	Sandy CLAY	23.4	25.5	1.52	3.0	2.5 ⁵

CBR samples were remoulded to a target of 100% relative density at approximately standard optimum moisture content (SOMC) and surcharged with 4.5 kg and soaked for four days prior to penetration The underling sandstone has a higher estimated CBR value which will range from CBR 5% to greater than 10% depending on the degree of weathering based on experience on other developments in proximity to the Site. The DCP testing is moisture sensitive, and it should be noted that testing was undertaken during a relatively long wet period. The field moisture contents ranged between 3.4% below (dry of) SOMC to 5.5 % above (wet of) SOMC at the time of investigation, undertaken following a period of higher-than-average seasonal rainfall.

The CBR Swell results when compared to Table 6.8 Guide to classification of expansive soils in Austroads [2] indicate that the soils tested have a moderate to marginally highly expansive nature and specific strategies may be required to address potential volume change due to moisture variation in the subgrade. This will largely be dependent on the vertical alignment of roads and the material present within 0.5 m of design subgrade level (DSL).

¹ The volume of anthropogenic waste was estimated by taking an average depth of all the test pits where brick and tiles were encountered and multiplying this with the surface area of the fill area footprint. The surface area was determined by encompassing the test pits where brick and tiles were observed and extending the perimeter of these areas halfway between clean test pits and test pits observed to have brick and tiles.

² Field moisture content.

³ Standard Optimum Moisture Content.

⁴ Standard Maximum Dry Density.

⁵ CBR at 2.5 mm

⁶ CBR at 5 mm



4.4.2 Shrink Swell Test Results

The laboratory Iss results are detailed in report sheets attached in Appendix C and summarised in Table 4.

Table 4 – Summary of Laboratory Shrink Swell Test Results								
Test Pit ID	Depth (m BGL)	Soil Type	Esw ⁷ (%)	Esh ⁸ (%)	Iss (%)			
TP04	0.5 – 0.8	Sandy CLAY	4.5	4.6	3.8			
TP07	0.5 – 1.0	Sandy CLAY	3.1	7.3	4.9			
TP23	0.5 – 1.0	Sandy CLAY	2.4	7.7	4.9			
TP28	0.5 – 1.0	Sandy CLAY	1.5	7.1	4.4			

Testing indicated that the surficial residual clay profile across the site is moderately to highly reactive.

4.4.3 Aggressivity Test Results

The laboratory Aggressivity results are detailed in report sheets attached in **Appendix C** and summarised in **Table 5.**

Table 5 – 9	Table 5 – Summary of Laboratory Aggressivity Test Results								
Test Pit ID	Depth (m BGL)	Material Description	Cl (mg/kg)	EC (Us/cm)	рН	Resistivity (ohm.m)	SO ₄ (mg/kg)		
TP04	1.0	Extremely weathered SANDSTONE	760	571	4.4	-	240		
TP07	1.0	Sandy CLAY	940	784	5.5	-	400		
TP23	1.0	Sandy CLAY	920	669	4.6	-	390		

Testing and comparison with AS2159-2009 indicated subsoil conditions encountered above are mildly aggressive to underground concrete structures for soil conditions B (low permeability soils (e.g. silts and clays) for all soils above groundwater. The subsoil conditions encountered above are non-aggressive to underground steel structures for soil conditions B (low permeability soils (e.g. silts and clays) for all soils above groundwater.

4.4.4 Atterberg and Emerson Class Test Results

The laboratory, plasticity and dispersion results are detailed in report sheets attached in **Appendix C** and summarised in **Table 6** and the Atterberg Limit plot is shown in Figure 2.

Table 6 -	Table 6 - Summary Laboratory Atterberg Limits and Emerson Class Test Results								
Test Bore ID	Depth (m)	Material Description	LL ¹⁰ (%)	PL ¹¹ (%)	PI ¹² (%)	Emerson Class No			
TP04	0.5 – 0.8	Sandy CLAY	73	21	52	2			
TP07	0.5 – 1.0	Sandy CLAY	69	23	46	2			
TP23	0.5 – 1.0	Sandy CLAY	69	18	51	1			

⁷ Swelling strain

⁸ Shrinkage strain

 $^{^{9}}$ AS2159 Piling – Design and installation by Standards Australia 2009

¹⁰ Liquid Limit

¹¹ Plastic Limit

¹² Plastic Index



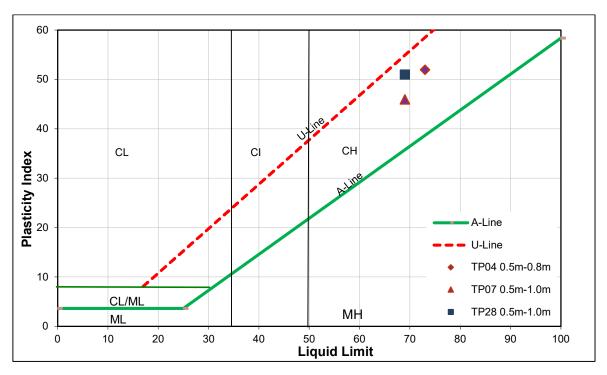


Figure 2. Atterberg limit plot

Based on the analytical results presented in **Table 7** the residual sandy CLAY/ Clay with sand encountered in most the test pits can be classified as being high plasticity clay. It should be noted that the residual sandy CLAY / CLAY with sand soils will vary in plasticity depending on sand, silt and clay content.

The Emerson class number of the clays ranged from 1 to 2, which is indicative of soils that when immersed in water their aggregates will undergo slaking resulting in complete dispersion (Class 1) or some dispersion (Class 2) and will require treatment were used in water retention structured and require vegetation where exposed at surface level to minimise erosion potential.

4.4.5 Particle Size Distribution Results

Particle Size Distribution Tests (PSDs) are detailed in report sheets attached in **Appendix C** and summarised in **Table 7.**

Table 7 - Summary Laboratory PSD Test Results					
Test Pit ID	Depth (m BGL)	Material Description	% passing 2.36 mm sieve	% passing 75 μm sieve	
TP04	0.5 – 0.8	CLAY with sand	89	78	
TP07	0.5 – 1.0	CLAY with sand	94	84	
TP23	0.5 – 1.0	Sandy CLAY	92	85	

PDS testing indicate the residual site soil profile is predominantly comprised of silts and clay with a low percentage of sand.



5 Preliminary Pavement Thickness Design

5.1 Design Traffic

Design traffic loadings and pavement thickness design calculation has been undertaken by EP Risk in accordance with *Maitland City Council Manual of Engineering Standards* [1].

The design traffic data has been determined based on the following assumptions in Table 8.

Table 8 – Recommended Road Type and Design ESA's			
Road Type	Roads Identification	Design ESA's	
Local - Secondary	TBC	2 x 10 ⁵	
Local - Primary	TBC	5 x 10 ⁵	
Collector - Secondary	TBC	1 x 10 ⁶	
Collector - Primary	TBC	1.5 x 10 ⁶	

Where traffic data varies from the above assumptions a review of pavement design may be required particularly considering connectivity with adjacent developments.

5.1.1 Design Parameters

Pavement thickness has been undertaken in accordance with Austroads AGPT02-17 Guide to Pavement Technology, Part 2: Pavement Structural Design [4] based on the following parameters for site materials.

Considering the subsurface condition (See Section 4.3) and the CBR test results of Table 3 the design CBR for subgrade is presented in **Table 9**.

Table 9 – Summary of the CBR test results and the recommended design CBR values						
Test pit ID	Soil description	Depth range (m BGL)	OMC (%)	Soaked CBR (%)	Recommended design CBR (%)	CBR Swell (%)
TP04	Sandy CLAY	0.5 – 0.8	27.5	1.5	2	2.5
TP07	Sandy CLAY	0.5 – 1.0	27.5	1.5	2	2.0
TP23	Sandy CLAY	0.5 - 1.0	24.5	3.0	3	2.0
TP28	Sandy CLAY	0.5 – 1.0	25.5	2.5	3	3.0

In situ CBR estimated from DCP tests indicated values in the order of 5% to >10% at assumed DSL and will require confirmation following finalisation of vertical and horizontal road layouts.

The design subgrade has been determined in accordance with Section 5 of Austroads 2017 [4] based on both laboratory and field-testing results.

Where filling is undertaken greater than 0.5 m depth, the CBR of the fill material should be undertaken into account for the design CBR. All fill materials should be a minimum of CBR 2% & 3% based on 4-day soak when compacted to 100% standard relative density and SOMC.

5.2 Subgrade Preparations

Where construction of a new pavement is proposed, subgrade preparation should be in general accordance with the following procedures:

1) Stripping of topsoil.



- Excavation and replacement of any uncontrolled fill with engineered fill in accordance with AS3798-2007 [9].
- 3) Excavation or fill to design subgrade level.
- 4) Static proof-rolling of the exposed subgrade using a heavy (minimum 10 tonne) roller under the direction of an experienced geotechnical consultant.

Loose or yielding areas should be excavated and replaced with compacted select fill or suitable subgrade replacement comprising of material of similar consistency to the subgrade.

Where filling or subgrade replacement is required, the materials employed should be free of organics or other deleterious material. The material should also have a maximum particle size of 100mm or one third of the layer thickness, with a minimum soaked CBR > 2%.

Uncontrolled fill containing anthropogenic material such as brick and tile will require reprocessing by screening and or crushing to produce suitable structural fill. The brick and tile materials can be reprocessed to be used as standalone material or blended with o site material and placed as controlled fill.

Following satisfactory preparation of the subgrade, the pavement should be placed in accordance with the designer's recommendations. Few pavement options are presented in the following sections according to the subgrade CBR (%) values.

5.2.1 Option 1– Flexible Unbound Pavement (For CBR 2 &3%)

The option of pavement reconstruction utilising flexible unbound pavement materials is detailed in **Table 10.**

Table 10 – Recommended Flexible Unbound Pavement Compositions (CBR 2-3%)				
Road Type	Local - Secondary	Local – Primary	Collector -Secondary	
Wearing Course (mm)	30 AC10*	30 AC10*	50 AC14*	
Basecourse (mm)	160	160	150	
Subbase (mm)	125	125	180	
Select (mm)	300	300	300	
Total Thickness (mm)	615 ¹³	615 ¹³	680 ¹³	
Subgrade CBR%	min 2 &3	Min 2 & 3	Min 2 & 3	
Allowable DESA	2 x 10 ⁵	5 x 10 ⁵	1 x 10 ⁶	

Notes: *AC14 and AC10 with 10mm or 7mm primer seal placed under all asphaltic concrete wearing surfaces

5.2.2 Option 3– Flexible Unbound Pavement (Weathered Rock Subgrade CBR>6%)

Where the DSL is at the weathered rock level the pavement construction utilising flexible unbound pavement materials is detailed in **Table 11**.



Table 11 – Recommended Flexible Unbound Pavement Compositions (Weathered Rock	Subgrade
estimated CBR> 6%)	

Road Type	Local - Secondary	Local – Primary	Collector -Secondary
Wearing Course (mm)	30 AC14*	30 AC10*	50 AC14*
Basecourse (mm)	160	160	150
Subbase (mm)	140	140	200
Select (mm)	-	-	-
Total Thickness (mm)	330	330	400
Estimated Subgrade CBR%	min 6 %	min 6 %	min 6 %
Allowable DESA	2 × 10 ⁵	5 × 10 ⁵	1 × 10 ⁶

A minimum of fourteen days duration shall apply following the application of the primer seal prior to application of subsequent asphalt layer(s). That period may be extended or shortened subject to approval by Council.

The determination of an extremely weather (XW) rock subgrade suitable to adopt a CBR 6% subgrade should be undertaken by a geotechnical consultant or suitably qualified council engineer. Extremely weathered siltstone and sandstone breaks down readily to produce low CBR like the clay subgrade materials.

DCP testing is recommended at subgrade to determine the appropriate pavement thickness design option to be adopted.

5.3 Materials

5.3.1 Specifications and Compaction Requirements

Pavement materials and compaction requirements for new pavement construction should conform to Council requirements and the following requirements outlined in **Table 12**.

Table 12 – Material specification and compaction requirements				
Pavement Course	Material Specification	Compaction Requirements		
Base Course DGB20 (Class 1 &2) [4] & NGB20 ¹³	Material complying with Council Specifications (1) with CBR > 80%, with PI ≤ 6%			
Subbase Subbase quality crushed rock	Material complying with Council Specifications [1] with CBR >30% with PI ≥2≤ 10%	Min 95% Modified (AS 1289 5.2.1)		
Select Granular material	Well graded granular material with CBR min 30% and PI ≤15%	Min 100% Standard (AS 1289 5.1.1)		
SubgradeMinimum CBR ≥5% or as appropriate for the design option.		Min 100% Standard (AS 1289 5.1.1)		

All granular pavement material quality for any upgrade of the intersection should be in general accordance with RMS QA Specification 3051 [3] and Council Manual of Engineering Standards [1] for Traffic Category B. Minimum testing on all potential imported pavement materials should be in accordance with RMS 3051 Ed 7 [3]. Pre-treatment of material prior to testing would be advisable for materials subject to breakdown.

 $^{^{13}}$ NGB and NGS material cannot be used on collector category roads due to higher design traffic.



5.3.2 Wearing Course

Wearing courses should be in accordance with Council's specifications with reference to RMS QA Specifications R106 for Sprayed Bituminous Surfacing for primer seal and RMS QA Specifications R116 for Dense Graded Asphalt. It is noted that a 45mm AC14 wearing course is utilised for collector category in accordance with Council Specifications [1]. 50mm of AC14 has been specified for collector category as recent testing has shown this to be the optimal thickness for durability.

The design and construction of wearing courses should be in in consultation with the preferred supplier considering traffic volume and type. All pavement surfaces should be primer sealed prior to the application of the AC wearing course. A minimum delay of 14 days is required after the primer seal before placement of the AC wearing course.

5.3.3 Pavement Drainage

The pavement thickness designs presented above assume drained pavement conditions. The selection, construction and maintenance of appropriate drainage infrastructure would be required for adequate performance. The selection of appropriate construction materials that are relatively insensitive to moisture change is also essential in area subject to periodic inundation, even if for a relatively short period of time.

5.3.4 Inspections

The subgrade will require inspection by an experienced geotechnical consultant after boxing out or filling to design subgrade level. The purpose of inspections is to confirm design parameters, assess the suitability of the subgrade to support the pavement, and delineate areas which may require subgrade replacement or remedial treatment prior to construction. This is particularly important where competent rock subgrade is encountered, and the contractor wishes to transition from the clay pavement design to the weathered rock pavement design.



6 Preliminary Site Classification

Australian Standard AS 2870-2011[5] establishes performance requirements and specific designs for common foundation conditions as well as providing guidance on the design of footing systems using engineering principles. Site classes as defined on Table 2.1 and 2.3 of AS 2870 are presented in **Table 13**.

Table 13 – General Definition of Site Classes				
Site Class	Foundation	Characteristic Surface Movement		
А	Most sand and rock sites with little or no ground movement from moisture changes	-		
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes	0 – 20 mm		
М	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes	20 – 40 mm		
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes	40 – 60 mm		
H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes	60 – 75 mm		
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes	> 75 mm		
A to P	Filled sites (refer to clause 2.4.6 of AS 2870)	-		
Р	Sites which include soft soils, such as soft clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soils subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.			

Reactive sites are sites consisting of clay soils that swell on wetting and shrink on drying, resulting in ground movements that can damage lightly loaded structures. The amount of ground movement is related to the physical properties of the clay and environmental factors such as climate, vegetation, and watering. A higher probability of damage can occur on reactive sites where abnormal moisture conditions occur, as defined in AS 2870, due to factors such as:

- Presence of trees on the building site or adjacent site, removal of trees prior to or after construction, and the growth of trees too close to a footing. The proximity of mature trees and their effect on foundations should be considered when determining building areas within each allotment (refer to AS 2870).
- Failure to provide adequate site drainage or lack of maintenance of site drainage, failure to repair plumbing leaks and excessive or irregular watering of gardens.
- Unusual moisture conditions caused by removal of structures, ground covers (such as pavements), drains, dams, swimming pools, tanks etc.

Regarding the performance of footings systems, AS 2870 states "footing systems designed and constructed in accordance with this Standard on a normal site (see Clause 1.3.2) that is:

- a) not subject to abnormal moisture conditions; and
- b) maintained such that the original site classification remains valid and abnormal moisture conditions do not develop



are expected to usually experience no damage, a low incidence of damage category 1 and an occasional incidence of damage category 2."

Damage categories are defined in Appendix C of AS 2870, which is reproduced in CSIRO Information Sheet BTF 18, Foundation Maintenance and Footing Performance: A Homeowner's Guide attached as **Appendix D**.

The laboratory Shrink Swell test results summarised in Error! Reference source not found. indicate that the tested natural sandy clay soils range from Class M (Moderately Reactive) to Class H1 (Highly Reactive), with I_{ss} values of 3.8 % to 4.9%. It is noted that reworking of the clay materials may increase reactivity. The I_{ss} values were impacted by elevated moisture content due the extended wet season prior to the investigation.

Based on the subsurface profiles encountered during the Investigation and laboratory Shrink Swell test results, along with prior experience on the site and in accordance with the AS 2870-2011; the Site would likely have classification generally ranging from H1 highly reactive in existing conditions to H2 highly reactive in existing conditions. Care will be required to avoid Classifications of Class E due to the depth of proposed filling in the former quarry. Some Class M, moderately reactive classifications may be obtained where shallow rock is encountered at ≤1.0m below design level. It will also be important to undertake earthworks as soon as practical and prior to development of the subdivision to allow settlement to occur and allow the cracked zone to re-establish. Treatment with lime can also be considered for reactive clay materials. Reactive clays are recommended to be placed deeper in the fill profiles. It is understood that approximately 100,000m³ of imported material is required to achieve design levels. Where possible the import of highly reactive clay should be avoided, and low reactivity granular fill materials preferred to assist with site classification (and pavement) outcomes.

Any areas of uncontrolled fill or areas disturbed during tree removal and demolition/ removal of structures and services will require remediation to avoid **Class P**, classifications.

The site classification is preliminary, and soil reactivity will vary across the Site with depth, location and regrade activities undertaken. The above Site classifications and footing recommendations are for the Site and assumed conditions present at the time of fieldwork and following development and consequently the site classifications will need to be reviewed during detailed investigation and site development.

Site works may include:

- Changes to the existing soil profile by cutting and filling.
- Landscaping, including trees removed or planted in the general building area; and
- Drainage and watering systems.

Designs and design methods presented in AS 2870-2011 are based on the performance requirement that significant damage can be avoided if site conditions are properly maintained. Performance requirements and foundation maintenance are outlined in Appendix B of AS 2870. The above site classification assumes that the performance requirements as set out in Appendix B of AS 2870 are acceptable and that site foundation maintenance is undertaken to avoid extremes of wetting and drying.

Details on appropriate site and foundation maintenance practices are presented in Appendix B of AS 2870-2011 and in CSIRO Information Sheet BTF 18, Foundation Maintenance and Footing Performance: A Homeowner's Guide, and the Australian Geoguide (LR8) Hillside Construction Practice.

Adherence to the detailing requirement outlined in Section 5 of AS 2870-2011 is essential, in particular Section 5.6. Additional requirements for Classes M, H1, H2 and E sites, including architectural restrictions, plumbing and drainage requirements.



7 General Construction Considerations

7.1 Excavations

Excavatability conditions have not been assessed beyond the depths to which the test pits were advanced using a 10-tonne excavator. The weathered rock was encountered at depths ranging from 0.4 to > 1.5 m. It should be noted that rock could potentially be encountered at higher levels outside of the test pit locations resulting in machine refusal at shallower depths. This is particularly relevant if smaller excavation equipment is used. The area is known to have higher strength rock at shallow depths therefore it could be anticipated that hard excavation may be encountered quickly once competent rock is encountered. Based on experience on development proximate to the site, excavation should be achievable with D8 size dozers with single ripper or large capacity excavators.

Where excavation significantly below the depths reached in the test pits and detailed above is proposed it would be considered prudent to make allowance for hydraulic rock hammer excavation or use of large capacity (25-30 tonne) excavator with a single ripper attachment. Considerable caution should be taken during rock excavation using hydraulic rock hammers or jack hammers in proximity to existing structures due to the potential for direct transmission of ground vibration to proximate buildings and structures.

It is understood that no blasting was required to obtain depth of excavation in the floor of the quarry and excavation was undertaken by using dozers of unknown capacity.

7.2 Excavation Stability

Excavations or trenches in the sandy clay soils and extremely weathered rock could be expected to stand close to vertical in the short-term. Unsupported short-term excavations or trenches in predominantly clayey soils encountered within various areas of the Site down to depths of 1.0 m may undergo some local slumping into the excavation, particularly following heavy or extended rainfall periods.

Where personnel are to enter excavations, options for short-term excavations include benching or battering back of the excavations to 1H:1V or the support of excavations within the residual soil and extremely weathered rock profile.

It is recommended that long-term excavations are either battered at 2H:1V or flatter and protected against erosion or be supported by engineer designed and suitably constructed retaining walls. Excavations may be battered steeper than 2H:1V in rock materials, subject to specific geotechnical assessment. The excavation recommendations provided above should be completed in reference to the Safe Work Australia Code of Practice 'Excavation Work', dated 31 July 2014.

7.3 Retaining Walls

All retaining walls should be designed by an engineer. Design of retaining walls should:

- Consider surcharge loading from slopes and structures above the wall.
- Take into account loading from any proposed compaction of fill behind the wall.
- Provide adequate surface and subsurface drainage behind all retaining walls, including a free draining granular backfill to prevent the build-up of hydrostatic pressures behind the wall.
- Utilise materials that are not susceptible to deterioration.
- Ensure walls are founded in materials appropriate for the loading conditions.

Footings for proposed retaining walls should be founded below any topsoil and uncontrolled fill within stiff or better clay or weathered rock. It is recommended to avoid founding retaining walls in the quaternary sediment and retaining walls should be founded in residual soil or better geological unit.



7.4 Filling

Fill should be placed and compacted in accordance with AS 3798-2007 [6]. It is expected that construction of a suitable fill platform to support structural loads, such as ground slabs and stiffened raft slabs, would include the following:

- Stripping of topsoil.
- Proof rolling of the exposed subgrade to detect any weak or deforming areas of subgrade that should be excavated and replaced with compacted fill.
- Site materials will likely require treatment or moisture re-conditioning prior to placement and compaction.
- Placement of fill in horizontal layers with compaction of each layer to a minimum dry density ratio of 98% Standard Relative Density (Australian Standard AS 1289 Clause 5.1.1) in residential areas and at moisture contents of 85-115% of SOMC. Fill within 0.5m of design subgrade in road alignments is to be compacted to 100% standard relative density at a 70-100% of SOMC and preferably as close to SOMC to reduce the potential for volume change in the expansive clays.

All fill should be supported by properly designed and constructed retaining walls or else battered at a slope of 2H:1V or flatter and protected against erosion by vegetation or similar and the provision of adequate drainage.

Materials excavated on Site with the exception of topsoil, and other deleterious materials such as uncontrolled fill, alluvial silts and clays if encountered are considered suitable for re-use as engineering fill. Uncontrolled fill materials (masonry waste) encountered are suitable for reuse, but will require treatment such as moisture re-conditioning and reprocessing to remove and or break down the brick and tile to suitable size fractions for reuse as controlled fill.

It is noted that Site materials are non-aggressive to mild aggressivity were encountered at the Site. Care should be taken in the utilisation of site material to avoid increasing existing site classifications. Reactive materials should preferably be used in the base of deeper fill areas ≥1.2m BGL. Imported of highly reactive materials should be avoided where practical.

7.5 Subgrade Preparations

Where construction of a new pavement is proposed, subgrade preparation should be in general accordance with the following procedures.

- Excavation to design subgrade level, removal of any uncontrolled fill (any uncontrolled fill material
 will require removal), with ripping to 300-350mm below design subgrade level and recompaction
 to a minimum 100% of SMDD. Moisture contents should be within 60 to 90% of SOMC but generally
 within 2% of SOMC for moderately expansive and highly expansive subgrade.
- Static proof-rolling of the exposed subgrade using a heavy (minimum 10 tonne) roller under the direction of an experienced geotechnical consultant.
- Loose or yielding areas should be excavated and replaced with compacted select fill or suitable subgrade replacement comprising of material of similar consistency to the subgrade.
- Where filling or subgrade replacement is required, the materials employed should be free of
 organics or other deleterious material. The material should also have a maximum particle size of
 100mm or one third of the layer thickness, with a soaked CBR > 2% preferably 3%.



Where a select layer is to be utilised in construction of the pavement. The material shall be well
graded granular material with minimum 4 day soaked CBR of 30% and PI ≤15%. The select layer
should be compacted to a minimum 100% of SMDD. Moisture contents should be within 60 to 90%
of SOMC.

Following satisfactory preparation of the subgrade, the pavement should be placed in accordance with the requirements of the appropriate section of this report and Council MoES [1] depending on the subgrade type.

7.6 Drainage

The moisture regime associated with a pavement has a major influence on the performance considering the stiffness/strength of the pavement materials is dependent on the moisture content of the material used. Accordingly, to protect the pavement materials from wetting up and softening, particular care would be required to provide a waterproof seal for the pavement materials, together with adequate surface and subsurface drainage of the pavement and adjacent areas.

Subsoil drainage shall be provided on both sides of the road pavements and in all road stormwater pipe trenches in accordance with Council's standard drawings SD035 and additionally as required by Council, or the geotechnical engineer where for example, drains are considered necessary where sub-soil moisture problems are encountered. The type, location and extent of subsoil drainage may vary depending on pavement materials or in-situ conditions. The subgrade should be constructed with sufficient cross fall (in general 3%) to assist in reducing retention time for moisture entering the pavement. The subsoil drains should be placed under or at the back or kerb and the shoulder sealed with a low permeability material to prevent moisture ingress into the pavement. Sealing of shoulder / verges with low permeability material where kerb and gutter is not employed is recommended to reduce potential for moisture ingress into the pavement.

The pavement thickness designs presented above assume drained pavement conditions. The selection, construction and maintenance of appropriate drainage mechanisms would be required for adequate performance. The selection of appropriate construction materials that are relatively insensitive to moisture change is also essential in area subject to periodic inundation, even if for a relatively short period of time.

Drainage should be in accordance with Section 8 of Chapter 007 Construction – Roads, Drainage, Concrete of the Council MoES.



8 Closure

From a geotechnical perspective there are no constraints considered prohibitive to the proposed development as a residential development. Due to the expansive nature of the clay subgrades encountered a select layer will be required to facilitate construction of pavement in line with Council requirements. CBR values of 1.5% to 3% were obtained from laboratory testing however DCP testing provided higher insitu CBR value ≥5% and the laboratory CBR's reflect poor correlation to insitu DCP tests. The low CBR values may be attributable to insufficient curing prior to moulding.

Pavement designs have been provided for recommended design subgrade CBR's of 2% and 3% and alternative CBR 6% where weathered rock is encountered. The minimum of 2% % CBR value is considered anomalous and the predominant subgrade anticipated to be encountered at design level follow regrade is CBR 3%. The subgrade materials encountered are moderate to highly expansive in nature and the use of a select material layer will be required for all clay subgrades, which will result in relatively thick pavements. Pavement design has been provided based on prior approved design by Council utilising a 300mm select CBR 30% layer and an allowance for an additional 150-175mm of subbase should be made, particularly where construction is undertaken in extended wet periods.

Preliminary Site Classification indicates that Class H1, highly reactive to Class H2, highly reactive would be expected in the existing condition and following regrade using onsite materials. Actual Site classifications will be dependent on the depth of rock and earthworks undertaken however careful management of earthworks will be required to avoid higher classifications of potential Class E, extremely reactive due to the reactivity of clay soils on Site particularly were used in deep fills. The clay materials encountered on site are of high plasticity and are dispersive and will need treatment with gypsum if used for water retention structures. The clays across the site are moderately to highly reactive and careful earthworks management will be required to avoid higher Site Classification of Class E, extremely reactive. Due to the reactivity of the clays lime stabilisation of material to be used in the upper fill layer would benefit by lime stabilisation to reduce reactivity. The more reactive materials should be used in the base of deeper fills at ≥1m below finished surface level. Import of highly reactive fill materials should be avoided where possible.

Weathered rock encountered at depths from 0.4 m BGL was estimated to be of very low to low strength and refusal was not encountered prior to target depth in all 25 test pits where rock was encountered. Based on previous experience on proximate developments the rock should be excavatable with D8 size dozers with single ripper or large capacity excavators.

No groundwater was encountered in the test pits during the investigation. It should be noted that groundwater is likely to fluctuate based of climatic conditions.

No underground mining works or mine subsidence districts have been identified within and adjacent to the proposed residential subdivision development.

Due to the depth of filling proposed settlement and differential settlement will need to be considered in relation to the proposed development and installation of above ground an inground infrastructure. Once design levels are known settlement calculations should be undertaken during the detailed investigations and factored into the design. Based on previous experience up to 100mm of settlement over a 5-7year period could be anticipated.

There is significant uncontrolled fill across the site predominantly comprising of quarry overburden and brick, tile and refractory which has been brought into the Site by previous operators / owners of the site. The estimated volume of brick and tile material encountered across the Site 10,600 cubic metres. This material will add additional expense to the development of the site due to the need for reprocessing which will be further complicated by the proportion of clay mixed with the masonry materials.

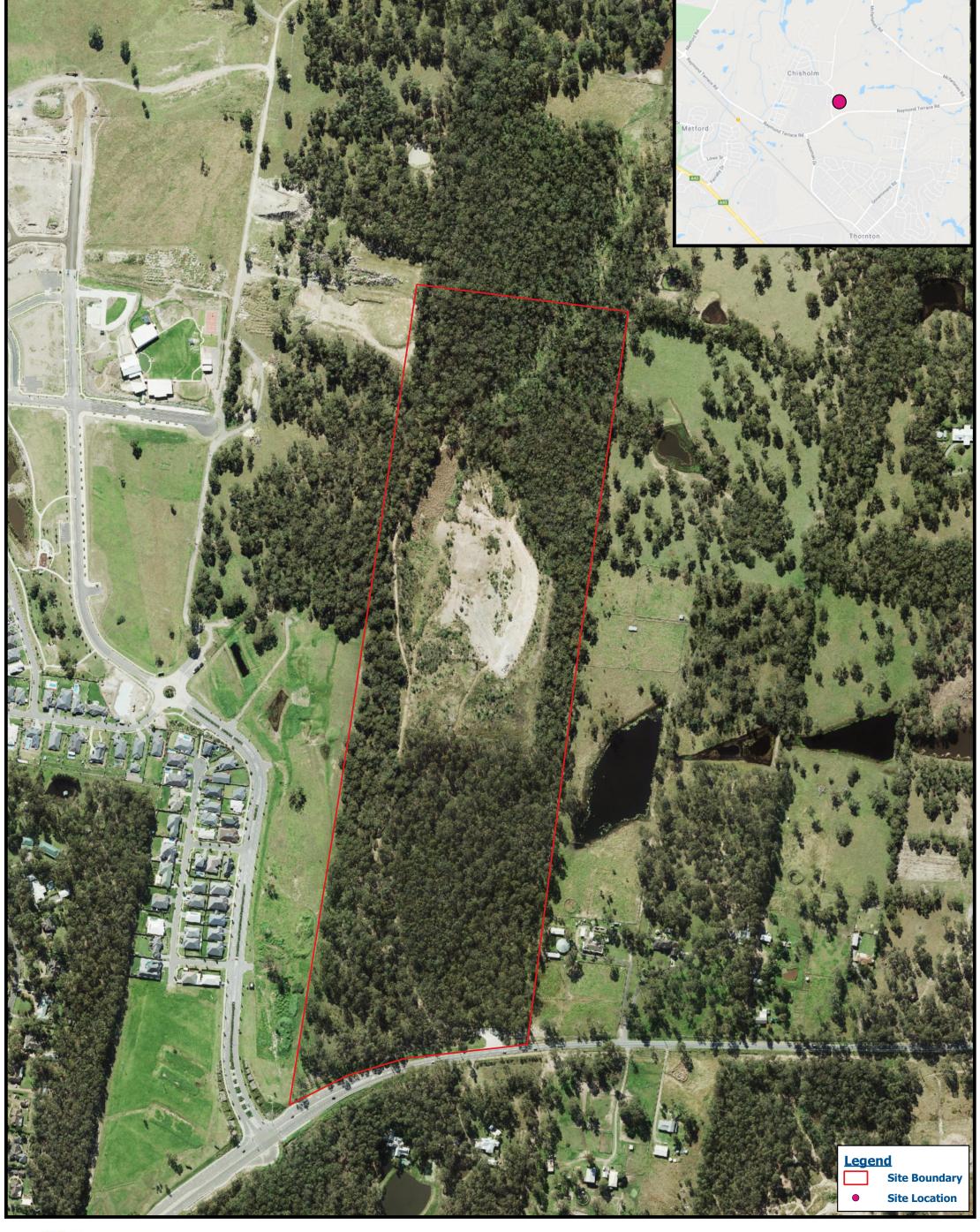


9 References

- [1] Maitland City Council Manual of Engineering Standards
- [2] Austroads AGPT05-19, "Guide to Pavement Technology Part 5: Pavement Evaluation and Treatment Design," Austroads Ltd, October 2019.
- [3] RMS QA Specification 3051 (Ed 7 Rev 0), "Granular Base and Subbase Materials for Surfaced Road Pavements," Roads and Maritime Services, August 2018.
- [4] Austroads AGPT02-17, "Guide to Pavement Technology Part 2: Pavement Structural Design," Austroads Ltd, 2017.
- [5] Australian Standard AS2870-2011 "Residential slabs and footing"
- [6] Australian Standard AS3798-2007 "Guideline on earthworks for commercial and residential developments".
- [7] Australian Standard AS2159-2009, "Piling Design & Installation," Standards Australia, 2009



Figures





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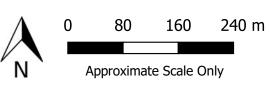
EP1995.003

Date: 26/08/2021

Drawing Ref:Figure

Preliminary Geotechnical Investigation 478 Raymond Terrace Road, Chisholm, NSW

Figure 1 - Site Location

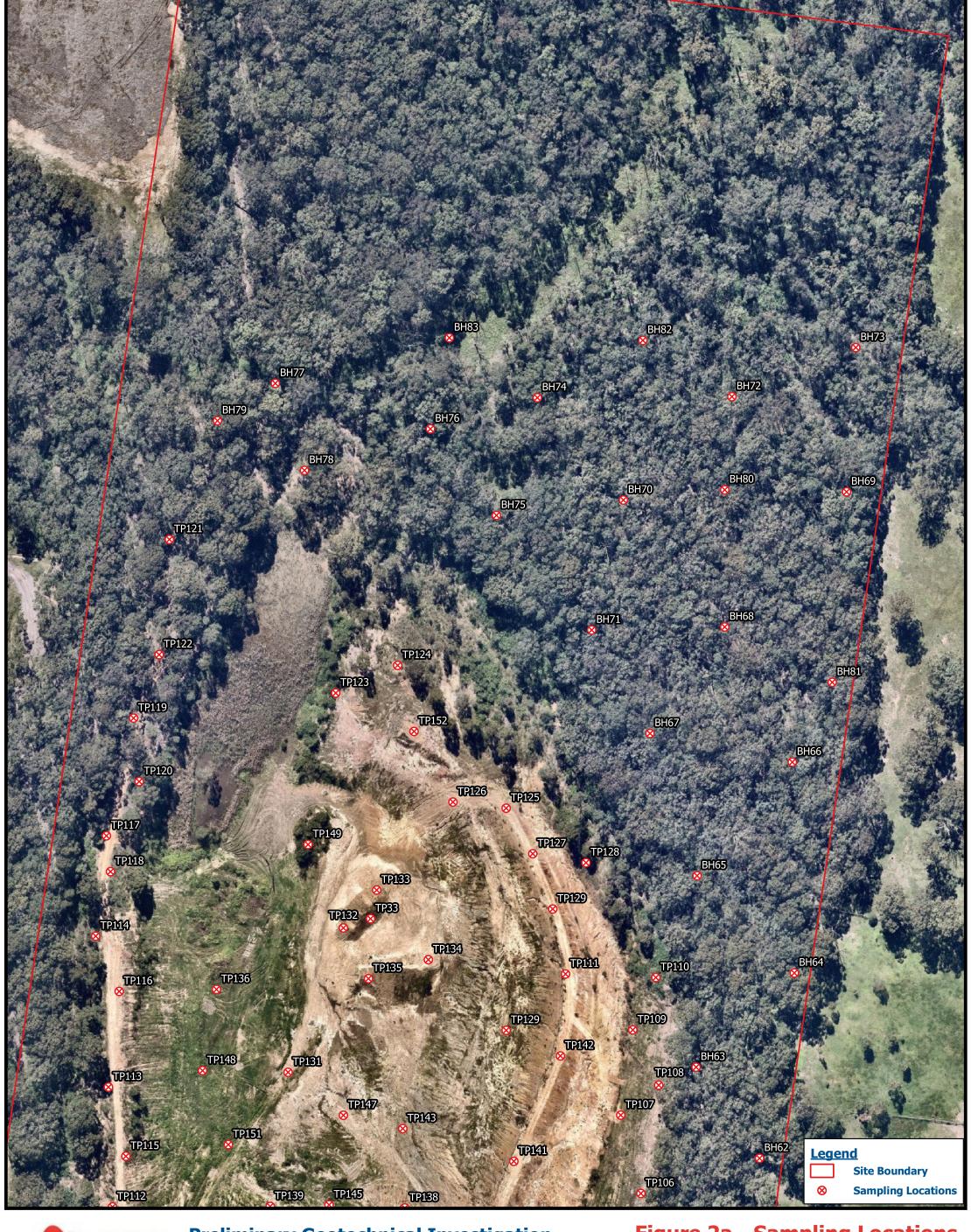


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Source: Near Maps











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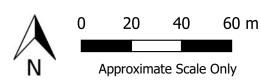
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Date: 26/08/2021

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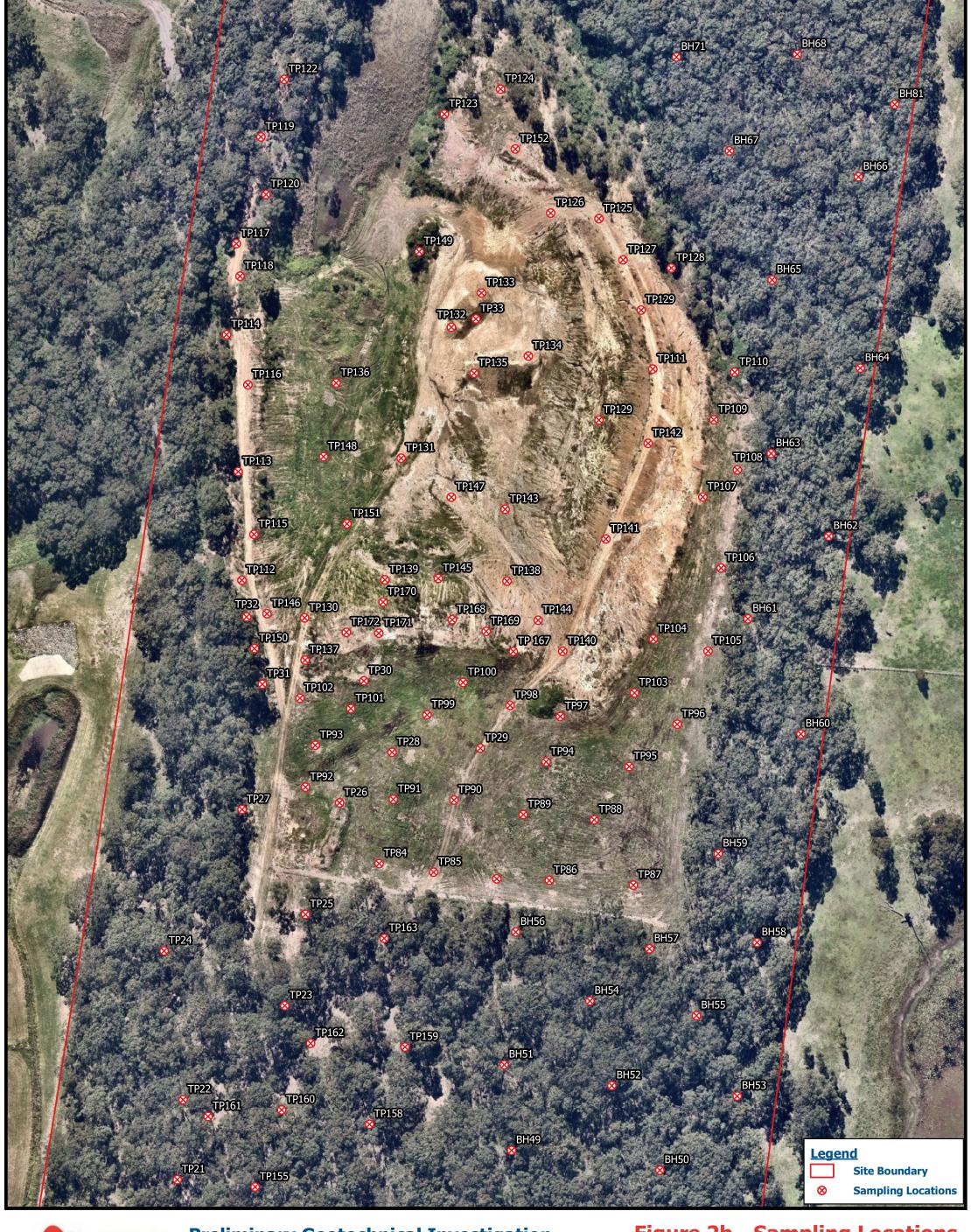
Figure 2a - Sampling Locations













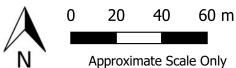
Preliminary Geotechnical Investigation 478 Raymond Terrace Road, Chisholm, NSW

Figure 2b - Sampling Locations



Job No:

EP1995.003



Coordinate System: MGA 56 Drawn by: LK Checked by: JY Scale of regional map not shown **Source: Near Maps**







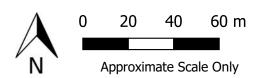




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Figure 2c - Sampling Locations





Source: Near Maps









Preliminary Geotechnical Investigation 478 Raymond Terrace Road, Chisholm, NSW

Figure 3a - Stockpile Locations

Coordinate System: MGA 56
Drawn by: LK Checked by: JY
Scale of regional map not shown
Source: Near Maps

57 m











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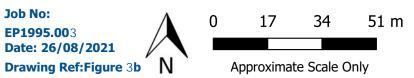
Job No:

EP1995.003

Date: 26/08/2021

Preliminary Geotechnical Investigation 478 Raymond Terrace Road, Chisholm, NSW

Figure 3b - Stockpile Locations



Coordinate System: MGA 56 Drawn by: LK Checked by: $\mathbf{J} \mathbf{Y}$ Scale of regional map not shown **Source: Near Maps**











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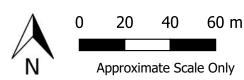
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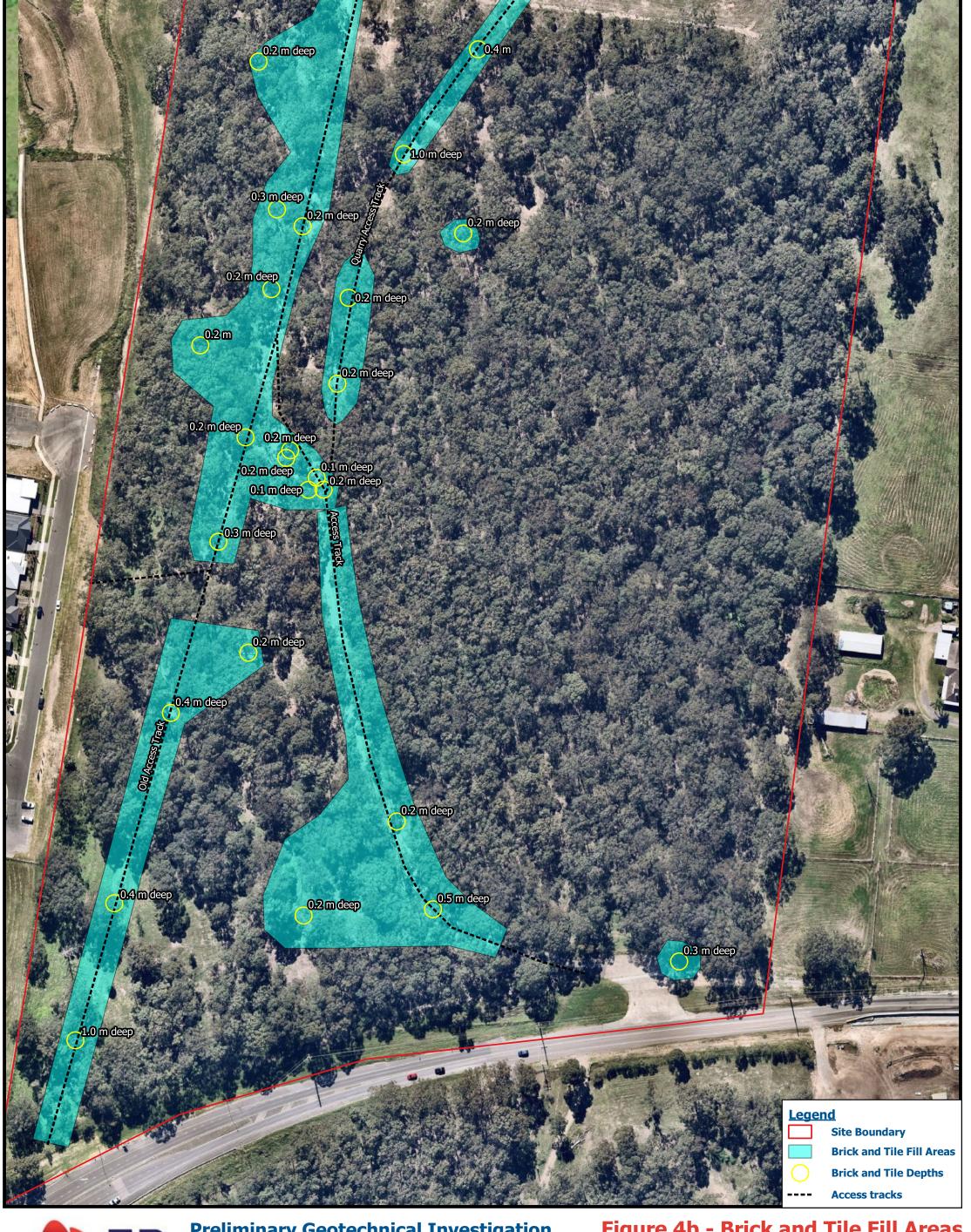
Figure 4a - Brick and Tile Fill Areas



Coordinate System: MGA 56 Drawn by: LK Checked by: $\mathbf{J} Y$ Scale of regional map not shown **Source: Near Maps**









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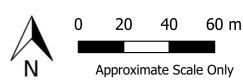
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Preliminary Geotechnical Investigation 478 Raymond Terrace Road, Chisholm, NSW

Figure 4b - Brick and Tile Fill Areas



Coordinate System: MGA 56
Drawn by: LK Checked by: JY
Scale of regional map not shown
Source: Near Maps









Appendix A





Description:Site Entry

Date: 4.02.2021



Plate 2

Description:

Juvenile regrowth and mounted material in SW CNR of site

Date: 4.02.2021







Description:

Brick and Coal Waste in access track in southern potion of site

Date:

4.02.2021





Description:

Brick and Refractory at side of access trach in the southern portion of site

Date: 4.02.2021



Plate 6

Description:

Polystyrene and mounded brick and coal waste Near western boundary front of site.

Date: 4.02.2021





Description:

Mounded brick and coal waste Near western boundary front of site.

Date: 4.02.2021



Plate 8

Description:

Old shelter western boundary

Date: 4.02.2021





Description:Pond at north
west end of
quarry

Date: 4.02.2021



Plate 10

Description: Vegetation including lantana in NW portion of site

Date: 4.02.2021





Plate 11

Description:Drainage path through to NE corner of site

Date: 4.02.2021



Plate 12

Description:Prickly Pear on
Eastern
boundary north
of quarry

Date: 4.02.2021





Description: Cleared land between quarry and E3 zone on eastern

Date: 4.02.2021

boundary



Plate 14

Description:Quarry floor
from NE corner

Date:

4.02.2021





Description:

Quarry void from eastern edge

Date: 4.02.2021



Plate 16

Description:

Scatter building waste SE corner of quarry

Date: 4.02.2021





Description:E3 corridor on eastern boundary

Date: 4.02.2021



Plate 18

Description:Dumped waste
SE E3 Zone

Date: 4.02.2021





Description:
Open
Woodland E#
Zone southern
portion

Date: 4.02.2021

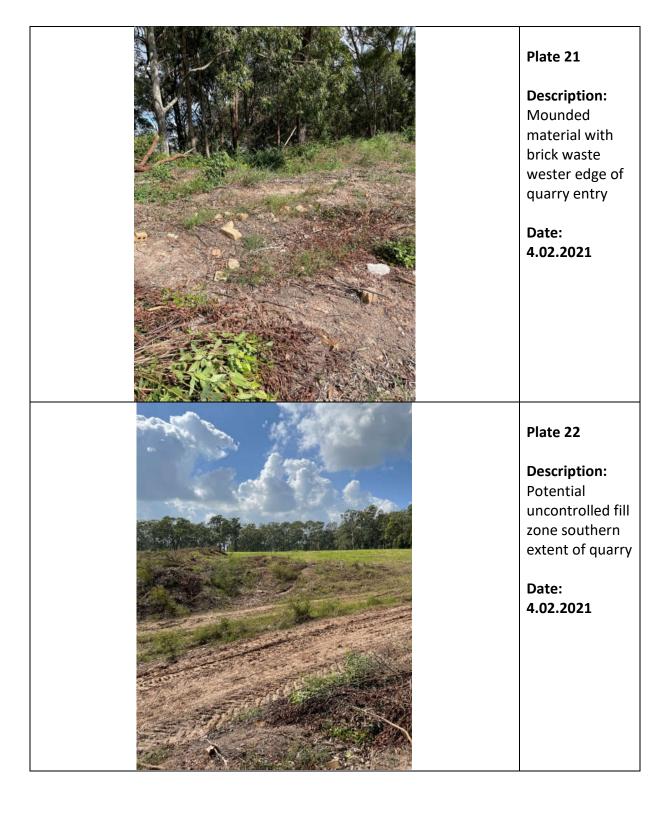


Plate 20

Description: Mounded material border of E3 zone and R1 front of site

Date: 4.02.2021









Description:Erosional
feature north of
quarry eastern
track

Date:

4.02.2021



Plate 24

Description:

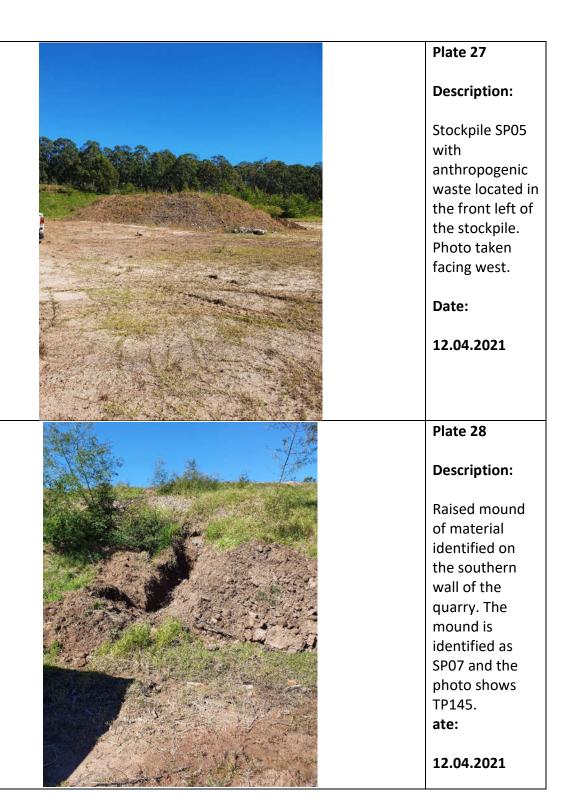
Stockpiled material in the centre of the quarry, identified as SP05 and SP06.

Date:

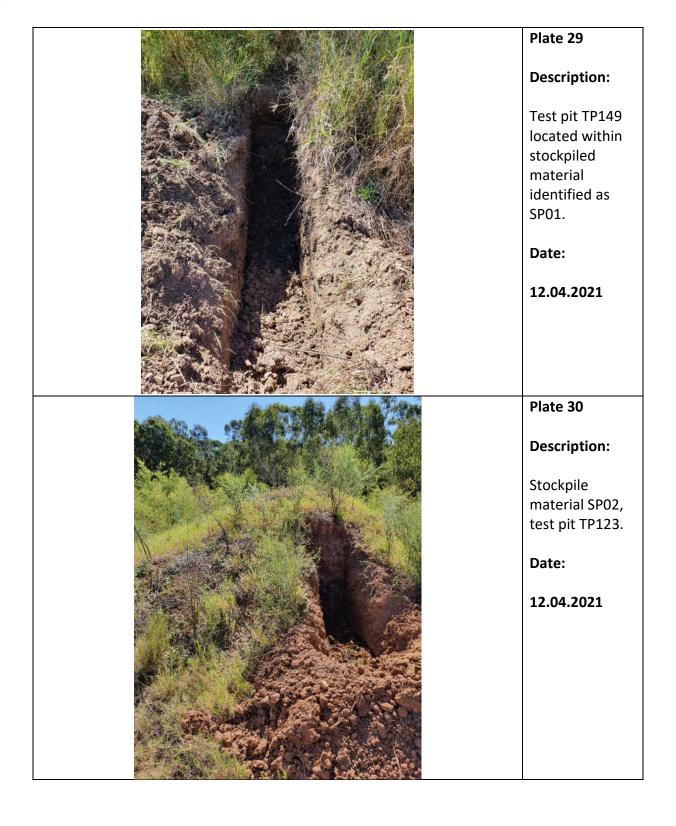




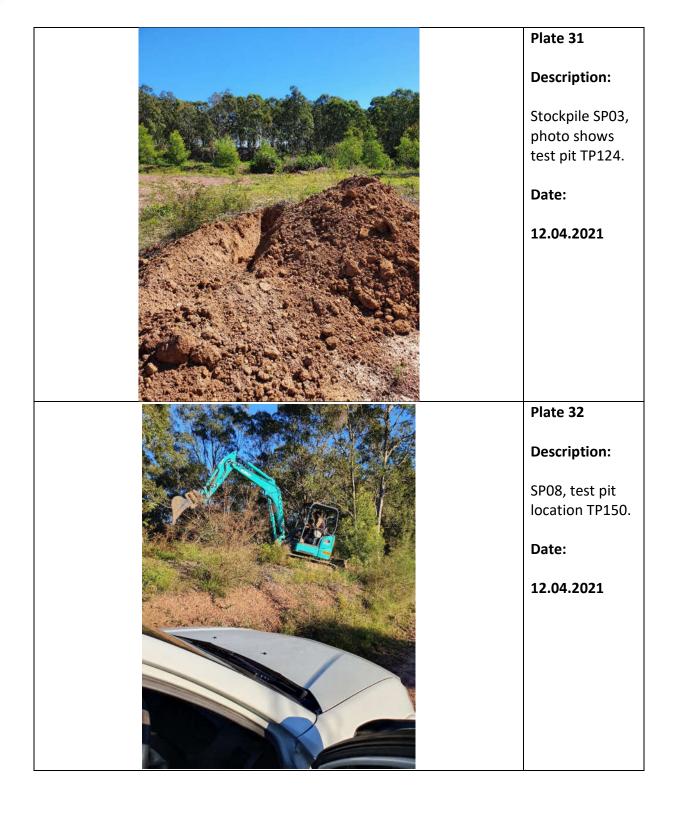
















Description:

Western access track running along the edge of the quarry, photo taken from TP113 facing north.

Date:

12.04.2021



Plate 34

Description:

Test pit location TP113 located within SP17 running along the western edge of the quarry.

Date:





Description:

Test pit location TP137 located within the side of SP07 on the southern edge of the quarry adjacent to the access track entering the quarry.

Date:

12.04.2021



Plate 36

Description:

Brick and tiles within the access track entering the quarry in the south west corner. Photo taken of the test pit location TP130.

Date:





Description:

Old structure and anthropogenic waste stockpile, test pit location TP24.

Date:

8.03.2021



Plate 38

Description:

Stockpiled SP15, test pit location TP27.

Date:

8.02.2021





Description:

Old pipe and anthopogenic material adjacent to the two stockpiles SP11 and SP14.

Date:

8.03.2021



Plate 40

Description:

Stockpiled material identified as SP11.

Date:

8.03.2021





Description:

Test Pit TP06 located within the old access track in the south west corner of the Site. Contained brick, tiles and coal chitter.

Date:

8.03.2021



Plate 42

Description:

Stockpiled material identified as SP12, test pit identified as TP10.

Date:

08.03.2021





Description:

Sediment and surface water sampling location downstream of the onsite waterbody within the quarry.
Sampling locations identified as SED02 and SW02.

Date:

8.04.2021

Plate 44

Description:

Sediment and surface water sampling locations at the water body located within the quarry, identified as SW01 and SED01.

Date:







Description:

Surface water body in the northwestern corner of the quarry. Tall reeds surround the surface water close to the embankments.

Date:

8.04.2021



Plate 46

Description:

Brick and tile used within the access track at test pit location TP85.
Stockpiled material is visible in the top of the image showing SP10.

Date:





Description:

Brick and tiles located within the access track entering the quarry on the south eastern corner.

Date:

06.04.2021



Plate 48

Description:

SP05 and SP06 located in the centre of the quarry, photo taken facing west from within the quarry along the eastern access track.

Date: 06.08.2021





Description:

Access track on the eastern side of the quarry perimeter.

Date:

05.03.2021



Plate 50

Description:

Material used for scour protection in the northern perimeter of the quarry, located within the waterway connecting to the waterbody within the north west corner of the quarry.

Date:

05.03.2021



Appendix B

EP1995 30 August 2021 Page 25



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.7 m

LATITUDE -32.763270 LONGITUDE 151.638188 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Test Pit within access track

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP01_0.1 \\ASS01_0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravels.	D	Ref.		Foreign material and organic material identified. Brick and tiles.
			/TP01_0.5 \			Sandy CLAY: Medium to high plasticity, brown mottled yellow, fine sand. Residual soil.				
- 0.5	<1		<u>//P01_0.5 \</u>							
						EOI at 0.7m				
1										



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.1 m

LATITUDE -32.763539 LONGITUDE 151.637943 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_	<1		/TP02_0.1 \ \ASS02_0.1/			TOPSOIL: Silty, clayey SAND: Fine to medium grained, brown, non-plastic, fine to medium sub-angular gravel. Traces of coal chitter.	D	5		No brick.
						Sandy CLAY: Fine grained, medium to high plasticity, brown mottled yellow, near plastic limit. Residual soil.		5	Stiff to Very Stiff	
-								4		
- 0.5	<1		/TP02_0.5 \					2		
0.5	~1		\ASS03_0.5					3		
						End of intrusive investigation.		2		
								2		
								4		
- 1								4		
						End of Discourie Core Department of the first		5		
_						End of Dynamic Core Penetrometer testing.				
_										
_										



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.7 m

LATITUDE -32.763503 LONGITUDE 151.637630 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMIN	IENIS									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		/TP03_0.1 \			FILL: Silty SAND with gravel: Fine to coarse grained sand, non-plastic, brown, fine to medium sub-angular gravel	D	6		Brick, foreign material and organic material identified.
	~1		\ASS04_0.1					6		
						Sandy CLAY: Medium to high plasticity, brown mottled yellow, near plastic limit, fine grained sand. Residual soil.		5	Stiff to very stiff	
								4		
- 0.5	<1		TP03_0.5					4		
			\ASS05_0.5					3		
-						End of Intrusive investigation.		3		
-								6		
						End of Dynamic Core Penetrometer at 0.9m				
- 1										
-										
_										
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.0 m

LATITUDE -32.763441 LONGITUDE 151.637091 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

	LITTO									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_	<1		/TP04_0.1 \ASS06_0.1			TOPSOIL: Silty SAND: Fine to medium grained, brown, non-plastic, fine to medium sub-angular gravels.	D	7		Disturbed ground surface. No foreign materials.
_						Sandy CLAY: High plasticity, brown mottled yellow, near plastic limit. Residual soil.		5	Stiff to hard	
_								5		
- 0.5	<1		TP04_0.5 \ASS07_0.5 ATT &					6		
_			CBR_0.5 - 0.8					12		
_						Extremely weathered SANDSTONE: Yellow and orange, dry, fine to coarse grained, low strength.		REF		
_			(100,10)			orange, e.j, mo to occio gramos, on enongan				
1			AGG_1.0			EOI at 1.0m				
_										



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ADDRESS Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.8 m

LATITUDE -32.763728 LONGITUDE 151.636768 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Old Access track

COMM	IENTS	Old Acc	ess track							
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	рсР	Consistency	Additional Observations
-	<1		TP05_0.1 ASS08_0.1 TP05_ASB			FILL: Silty, clayey SAND: Fine to medium grained, non-plastic, fine to medium sub-angular gravel.	D	4		Brick, tile and coal chitter road base layer.
0.5	<1		TP05_0.5 \ \ASS09_0.5			Sandy CLAY: Medium to high plasticity, brown mottled yellow, fine grained sand. Residual soil.		REF		
- - 1						EOI at 0.8m				
_										



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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.762974 LONGITUDE 151.636971 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_			/TP06_0.1 \ \ASS09_0.1/			FILL: Silty, clayey SAND: Fine to medium grained, brown, non-plastic, fine to medium sub-angular gravel.	D	4		Foreign material identified. Brick and tiles.
_						Sandy CLAY: Medium to high plasticity, brown mottled yellow, fine grained sand. Residual soil.		3	Very stiff to	
- 0.5 -			/TP06_0.5 \ \ASS10_0.5					9	hard.	
_						EOI at 0.9m		REF		
- 1 -										
_										
_										



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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.5 m

LATITUDE -32.762566 LONGITUDE 151.637250 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

0011111										
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
					{ { }	TOPSOIL: Sandy SILT: Fine to medium grained, non-plastic, dark brown.	D-M	3		
-			TP07_0.1 ASS12_0.1		{			4		
			V-0012_0.1					7		
_						Sandy CLAY: Medium to high plasticity, light brown mottled orange, dry at plastic limit, fine grained sand. Residual soil.		3	Firm to stiff	
								2		
-								1		
- 0.5			TP07_0.5 ASS13_0.5				D	2		
-			ATT & CBR_0.5 -							
			1.0					3		
								4		
-								3		
-										
- 1			/AGG_1.0 \							
_										
-										
-										
-										
1.5										
1.0						EOI at 1.5m				
-										
-										
-										
		<u> </u>	L							



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ADDRESS Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.0 m

LATITUDE -32.762922 LONGITUDE 151.637503 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_	<1		/TP08_0.1			FILL: Clayey SAND: Fine to coarse grained, grey, fine to coarse angular pebbles.	D	4		Bricks and tiles.
			ASS14_0.1					3		
						Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil.		7	Stiff to very stiff	
								6		
- 0.5	<1		√TP08_0.5 \					3		
			ASS15_0.5			End of intrusive investigation at 0.6 m.		3		
								3		
								3		
								3		
1								4		
						End of Dynamic Core Penetrometer testing 1.0 m				
_										
-										



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CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.762655 LONGITUDE 151.637895 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Access track

COMIN	IENIS	Access	liack							
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	-1		/TP09_0.1 \			FILL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D	5		Brick and tiles identified on surface.
	<1		ASS16_0.1					4		
						Sandy CLAY: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.		3	Firm	
								3		
- 0.5	<1		TP09_0.5					3		
_			\ASS17_0.5			End of intrusive investigation.		3		
-								5		
-								5		
						End of Dynamic Core Penetrometer at 0.9m				
- 1										
-										
_										
_										
_										



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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.7 m

LATITUDE -32.762507 LONGITUDE 151.637643 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Mound of bricks and tiles, approximately 0.4 m above ground level.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		/TP10_0.1 \			FILL: Silt: Non plastic. fine to medium grained, light brown.	D	4		Foreign material identified in fill. Bricks and tiles.
			ASS18_0.1 QC01 QC02					4		
						Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil.		3	Stiff to very stiff.	
								3		
			/TP10_0.5 \					4	•	
- 0.5	<1		ASS19_0.5	-				4		
						End of intrusive investigation at 0.7m		6		
					: :: <u>/</u> : : : /	End of initiasive investigation at 0.7111		5		
								6		
						End of Dynamic Core Penetrometer testing at 0.9m				
1										



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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.6 m

LATITUDE -32.762291 LONGITUDE 151.637275 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Old access track

	<u></u>	T	ess track				1	<u> </u>	
Depth (m)	O. O.	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Additional Observations
_	<1		/TP11_0.1 \ \ASS20_0.1/			FILL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D	REF	Bricks and tiles.
_						Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil.			
- 0.5	<1		/ASS21_0.5\	_					
_						EOI at 0.6m			
- - 1									
-									
-									
_									



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.762647 LONGITUDE 151.636977 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Access track

COMN	IENTS /	Access	track							
Depth (m)	PID	РР (КРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
- 0.5	<1		TP12_0.1 \ASS22_0.3			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravel. Sandy CLAY: Medium to high plasticity, grey, fine to coarse grained sand. Residual soil. End of intrusive investigation at 0.4m.	D	3 3 3 5 10	Stiff	Foreign material identified on surface. Bricks and tiles.
						End of Dynamic Core Penetrometer testing at 0.4m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.762738 LONGITUDE 151.636975 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Access track

COMMENTS Access track										
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
- 0.5	<1	a.	TP13_0.1 \ASS23_0.4			FILL: Silty SAND with gravel: Fine to medium grained, brown, fine to medium sub-angular gravel. Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil. End of intrusive investigation at 0.5m.	D	3 3 3 5 10 6	Very	Foreign material identified on surface. Bricks and tiles.
						End of Dynamic Core Penetrometer at 0.9m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.0 m

LATITUDE -32.762910 LONGITUDE 151.637562 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

				1				Ι		
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
						Clayey SAND: Fine to coarse sand, light brown, non-plastic, with fine to coarse grained gravel. Residual soil.	D	4	Medium to dense	
_	4							3		
_								7		
_								6		
_						Extremely weathered SANDSTONE: Low strength, fine to coarse grained.		3	Medium	
- 0.5	4					End of intrusive investigation at 0.5m.				
								3		
_								3		
_								3		
-								3		
_								4		
1										
						End of Dynamic Core Penetrometer testing at 1.0m				Dags 1 of 1



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.763188 LONGITUDE 151.637580 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_	<1		TP15_0.1 \ASS24_0.1			TOPSOIL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D	6		
_						Sandy CLAY: Medium to high plasticity, brown mottled yellow, near plastic limit, fine to medium grained sand. Residual soil.		5	Stiff to very stiff	
_								4	_	
- 0.5 -	<1		TP15_0.5 ASS25_0.5					3	_	
_								7	_	
_						End of intrusive investigation at 0.8m.		7		
- 1						End of Dynamic Core Penetrometer testing at 0.9m				
_										
_										
_										



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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.8 m

LATITUDE -32.762607 LONGITUDE 151.637865 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Adjacent to access track

СОММ	IENTS /	Adjacer	it to access tra	ick						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			/TP16_0.1 \			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium gravel.	D-M	5		Brick identified on surface
	<1					Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		4	Stiff	
-			/ASS26_0.3\					3		
_			<u></u>			End of intrusive investigation at 0.35m.		3		
_								3		
- 0.5								3		
-								4		
-								5		
						End of Dynamic Core Penetrometer testing at 0.8m				
_										



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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.8 m

LATITUDE -32.762641 LONGITUDE 151.637842 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Test pit adjacent to access track

COM	MENTS	Test pit	adjacent to ac	cess	track					
Depth (m)	DID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			/TP17_0.1 \			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravel.	D-M	5		Brick identified on surface
	<1		ASB_0.1			Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		4	Stiff	
_								3		
_			/ASS27_0.3			End of intrusive investigation at 0.35m.		3		
_								3		
- 0.5								3		
_								4		
_								5		
						End of Dynamic Core Penetrometer testing at 0.8m				
						Z S. Synamic Color of Green Microsoft Coding at 0.0111				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.2 m

LATITUDE -32.762530 LONGITUDE 151.637634 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Stockpile of brick and tiles approximately 0.2 m high.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		√TP18_0.1 \			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to medium sub-angular gravel.	D-M			Brick identified on surface and in fill.
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained. Residual soil.	D	4	Stiff	
								4		
0.5	<1		ASS28_0.5					3		
						End of intrusive investigation at 0.6m.		3		
								4		
								6		
								5		
1								6		
								4		
						End of Dynamic Core Penetrometer at 1.2m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.6 m

LATITUDE -32.762248 LONGITUDE 151.637530 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COIVIIV	ILINIS									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			/TP19_0.1 \			TOPSOIL: Silty SAND: Fine to coarse grained, brown, non-plastic, with small sub-angular gravel.	D-M			
	<1							7		
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.	D-M		Very stiff to hard	
								8		
- 0.5	<1		/ASS29_0.5					6		
_						End of intrusive investigation at 0.6m.		7		
_								8		
_								8		
						End of Dynamic Core Penetrometer testing at 0.6m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.761768 LONGITUDE 151.637633 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COIVIIV	ILINIS									
Depth (m)	PID	РР (КРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
			√TP20_0.1 \			TOPSOIL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D-M	4		
_	<1							5		
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit fine to coarse grained sand. Residual soil.		5	Very Stiff	
								4		
- 0.5	<1		/ASS30_0.5\					5		
						End of intrusive investigation at 0.6m.		5		
_								4		
_								5		
						End of Dynamic Core Penetrometer testing at 0.9m				
						2.1.3 57 Dynamic Colo i Glictometer testing at 0.5m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.0 m

LATITUDE -32.761384 LONGITUDE 151.637478 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_	<1					FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to medium grained sub-angular gravel.	D	8		Brick and tile identified on surface and in fill.
_						Sandy CLAY: Medium to high plasticity, brown		5	Stiff	
_						mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		3	to very stiff	
_								5		
- 0.5	<1		TP21_0.5 ASS31_0.5					4		
_						End of intrusive investigation at 0.6m.		3		
_								7		
_								9		
_								REF		
						End of Dynamic Core Penetrometer at 1.0m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.2 m

LATITUDE -32.760809 LONGITUDE 151.637656 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Stockpile of brick and tiles 0.3 m above ground level

00						pove ground level				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
-	<1		/TP22_0.1 \ASS32_0.1/			FILL: Silty SAND with gravel: Fine to medium grained sand, light brown, fine to medium sub-angular gravel.	D-M			Brick and tiles
- - 0.5	<1					Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		6 6	Very Stiff	Decayed log identified in clay
-						∕End of intrusive investigation at 0.8m.		5		
-1 -								7		
						End of Dynamic Core Penetrometer at 1.2m				



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.2 m

LATITUDE -32.760456 LONGITUDE 151.638043 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COIVIIV	ILIVIO									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
_	<1					TOPSOIL: Silty, clayey SAND: Fine to medium grained, brown, non-plastic, with fine to medium sub-angular gravels.	D	6 5		
								3		
						Sandy CLAY: Medium to high plasticity, brown mottled yellow, near plastic limit, fine grained sand. Residual soil.		3	Stiff to very stiff	
_								4		
_			(TD00.0.5)					4		
- 0.5	<1		TP23_0.5 \ ASS33_0.5 \ ATT & CBR_0.5 -					5		
_			1.0					5		
_								6		
_								7		
_										
- 1	<1		AGG_1.0 \			Extremely weathered SANDSTONE: Low strength, fine to coarse grained.				
_										
						EOI at 1.2m				
						· · · · · · · · · · · · · · · · · · ·				
-										
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 0.9 m

LATITUDE -32.760249 LONGITUDE 151.637548 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Old demolished structure

COMM	IENTS	Old den	nolished struct	ure						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		√TP24_0.1 \			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, non-plastic, with fine to medium sub-angular gravel.	D-M	6		Demolished structure. Brick, timber and other foreign material identified.
-			ASS34_0.1 TP24_ASB			Sandy CLAY: Medium to high plasticity, brown		7	Very	
_						mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		9	stiff to hard	
_								6		
- 0.5	<1							8		
_						End of intrusive investigation at 0.6m.		7		
_								9		
_								8		
						End of Dynamic Core Penetrometer testing at 0.9m				



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CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.2 m

LATITUDE -32.759940 LONGITUDE 151.638188 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Stockpile of material approximately 0.3 m above ground level

Depth (m)	PIO	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		√TP25_0.1 \ \ASS35_0.1√			FILL: Silty SAND with gravel: Fine to medium grained sand, light brown, non-plastic, with fine to medium sub-angular gravel	D			No foreign materials
						Sandy CLAY: Medium to high plasticity, red, near plastic limit, fine to coarse grained sand. Residual soil.			Stiff	
								6	to very stiff	
								5	•	
0.5	<1							2		
						End of intrusive investigation at 0.6m.		2		
								1		
								3		
								2		
1								2		
								2		
						End of Dynamic Core Penetrometer at 1.2m				



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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.0 m

LATITUDE -32.759631 LONGITUDE 151.638343 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Stockpile of material approximately 0.3 m above ground level

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
-	<1					FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravel.	D			No brick or tiles.
_						Sandy CLAY: Medium to high plasticity, red mottled grey, near plastic limit, fine to coarse grained sand. Residual soil.		5	Stiff to very stiff	
-			(TD00.0.5)					3		
- 0. 5	<1		TP26_0.5 \ ASS36_0.5					4		
-								4		
-								6		
_								6		
-								6		
- 1					<i>[] [][]]</i>			9		
_								12		
						End of Dynamic Core Penetrometer at 1.2m				



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CLIENT Avid Property Group
ADDRESS Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.2 m

LATITUDE -32.759439 LONGITUDE 151.637950 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COMMENTS Stockpile of material approximately 0.3 m above ground level

	COMMENTS Stockpile of material approximately 0.5 m above ground level									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
-	<1		/TP27_0.1 \ \ASS37_0.1/			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, dry, fine to medium sub-angular gravel	D			Bricks and tiles
_						Sandy CLAY: Medium to high plasticity, red mottled grey, near plastic limit, fine to coarse grained sand. Residual soil.		5	Very stiff to hard	
- 0.5	<1							7		
-								6		
- - 1						End of intrusive investigation at 1.0m.		6		
						End of Dynamic Core Penetrometer at 1.2m		4		
-										



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DRILLER RN
DRILLING METHOD 400mm Bucket
TOTAL DEPTH 1.0 m

LATITUDE -32.759371 LONGITUDE 151.638628 SURFACE ELEVATION LOGGED BY GR CHECKED BY LK

COIVIIV	LIVIO								
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Additional Observations
-	<1					TOPSOIL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D		
- 0.5	<1		TP28_0.5 \ ASS38_0.5 ATT & CBR_0.5 -			Sandy CLAY: High plasticity, red mottled grey, near plastic limit, fine to coarse grained sand. Residual soil.			
_					W. 51.7.7.	EOI at 1.0m			



TEST PIT 29

PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759393 LONGITUDE 151.639013 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP29_0.1 \			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		4	Anthropogenic material: Brick and tile waste mateial.
								6	
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual Soil.	Firm to stiff.	3	
								3	
			/TP29_0.5 \					2	
0.5	<1		711 20_0.0 \					3	
					<u>::</u>	End of intrusive investigation.		3	
								3	
								4	
								4	
1						End of Dynamic Cone Penetrometer Testing.			



TEST PIT 30

PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.0 m BGL

LATITUDE -32.759068 LONGITUDE 151.638473 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Mound of natural soil/Fill material, approximately 0.4 m above ground level..

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP30_0.1 \ \TP30a_0.1/			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel.			Mound of material, 0.4 meters above ground level. Some wood and tree branches located within the mound of material.
-									
- 0.5	<1		/TP30_0.5 \			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Soft	1	Started DCP within the test pit beneath the fill material layer.
-								2	
							Firm to very stiff.	3	
								3	
								3	
- 1								2	
						End of intrusive investigation.		3	
								4	
								5	
-						End of Dynamic Cone Penetrometer Testing.			
- 1.5									
1.0									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.5 m

LATITUDE -32.758978 LONGITUDE 151.638062 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Test pit within a stockpile on the western side of the quarry. Stockpile approximately 1.0 m above ground level.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		/TP31_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		Anthropogenic material, bricks and tiles.
- 0.5 - - -	<1		/TP31_0.5					
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
-						End of Intrusive Investigation		



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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.5 m

LATITUDE -32.758216 LONGITUDE 151.638282 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Test pit within a stockpile on the western side of the quarry. Stockpile approximately 1.2 m above ground level.

		I	Ī		I			
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		/TP32_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		Anthropogenic material, bricks and tiles.
- 0.5	<1		/TP32_0.5					
- 1 - -						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
- - 1.5						End of Intrusive Investigation		
-								



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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.7 m

LATITUDE -32.757747 LONGITUDE 151.639050 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Mound of stockpiled material in the centre of the quarry. Mound of material approximately 1.5 m above ground level.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
_	<1		√TP33_0.1 \			FILL: Silty SAND with gravel: Brown, fine to coarse sand, fine to medium sub angular gravels.		No anthropogenic material.
- 0.5 -	<1		/TP33_0.5					
_ 1 _								
- 1.5 - -						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil. End of Intrusive Investigation		



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Investigation Date 06/04/2021

Drilling Company Lovett's Earthmoving

Driller RN

Drilling Method 10 T Excavator 400 mm

TOTAL DEPTH 0.9 m

LATITUDE -32.736087 LONGITUDE 151.638547 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP34_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, near plastic limit, with fine to coarse grained sand and fine sub-angular gravel.	2		Dry to moist	
- 0.5	<1	<u>/200</u> \	/TP34_0.5 \ASSTP34_0.5		Sandy CLAY: Medium to high plasticity, orange mottled brown, with fine to coarse grained sand. Residual soil.	2 3 4	Stiff		
-						5			
					EOI at 0.9 m				
- 1 -									
_			is intended for any						



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CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 06/04/2021
Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.763251 LONGITUDE 151.638796 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COW	MENIS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		/TP35_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine sub-angular gravel.	2		Dry to moist	
	7					2			
		/300 \			Sandy CLAY: Medium to high plasticity, orange mottled brown, near plastic limit, with fine to coarse grained sand. Residual soil.	2	Stiff	Dry to moist	
_						2			
- 0.5	<1		TP35_0.5			3			
_			\ASSTP35_0.5 /		End of intrusive investigation	5			
						5			
						4			
_ 1					EOI at 0.9 m				
_									



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Chisholm, NSW

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Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.763439 LONGITUDE 151.639507 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP36_0.1 \ASS_TP36_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium sub-angular gravel.	5		Dry to moist	Cloth, disturbed ground surface
_		√ 400 \			Sandy CLAY: Medium to high plasticity, brown, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
- 0.5	<1		/TP36_0.5 \ASS_TP36_0.5		Sandy CLAY: Medium to high plasticity, brown to orange, near plastic limit, with fine to coarse grained sand. Residual soil. End of intrusive investigation	3	Stiff	Dry to moist	
_				<u></u> /		4			
_						5			
<u> </u>					EOI at 0.9 m				
-									
									Dog 1 of 1



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762620 LONGITUDE 151.638672 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP37_0.1		TOPSOIL: Sandy Clayey SILT: Low plasticity, brown, with fine to coarse grained sand. Some coal chitter and organics present.	1		Dry to moist	
-		\(\sqrt{250} \)	√TP37_0.5		Sandy CLAY: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	1	Firm	Dry to moist	
- 0.5 -	<1		\ASS_TP37_0.5 /		End of intrusive investigation	2			
_						4			
- 1					EOI at 0.9 m				
_									
_									Page 1 of 1



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CLIENT Avid Property Group Pty Ltd
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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.763033 LONGITUDE 151.639513 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	DIO	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP38_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium sub-angular gravel.	1		Dry to moist	
_					Silty Sandy CLAY: Medium to high plasticity, brown, with fine to coarse grained sand and some fine to coarse sub-angular gravel. Residual soil.	2	Firm	Dry to moist	
- 0.5	<1	∫ 250 \	/TP38_0.5 \ASS_TP38_0.5		Sandy CLAY: Medium to high plasticity, brown to orange, near plastic limit, with fine to coarse grained sand. Residual soil. End of intrusive investigation	2	Firm		
_						3	-		
					EOI at 0.9 m	4			
- 1									
_									
_			is intended for any						Dags 1 of 1



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Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762990 LONGITUDE 151.639061 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

CON	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP39_0.1 \		TOPSOIL: Gravelly Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium sub-angular gravel.	2		Dry to moist	
_					Silty, Sandy CLAY: Medium to high plasticity, brown mottled orange, with fine to coarse grained sand. Residual soil.	3	Stiff	Moist	
- 0.5	<1	<u>/250</u> \	/TP39_0.5 \ASS_TP39_0.5		Sandy CLAY: Medium to high plasticity, brown to orange, with fine to coarse grained sand. Residual soil.	3	Stiff to very stiff	Dry to moist	
-					End of intrusive investigation	4			
_						5			
– 1					EOI at 0.9 m				
_									



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762549 LONGITUDE 151.639389 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENIS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		∫TP40_0.1		FILL: Sandy SILT: Light brown, with fine to coarse grained sand, fine to coarse grained angular gravel, and some clay fines.	3		Dry to moist	Coal chitter, organics and tree roots present
_					Silty Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Firm	Dry to moist	
- 0.5	<1	<u>/250</u> \	/TP40_0.5 \ASS_TP40_0.5		Sandy CLAY: Medium to high plasticity, orange mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.	4	Very stiff	Dry to moist	Tree roots
-					End of intrusive investigation.	7			
- 1 -					EOI at 0.9 m				



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762182 LONGITUDE 151.638907 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP41_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to coarse grained sub-angular gravel.	4		Dry	
- 0.5	<1	∕200 \	/TP41_0.5 \ASS_TP41_0.5		Sandy CLAY: Medium to high plasticity, orange mottled brown, near plastic limit, with fine to coarse grained sand. Residual soil.	2 3 3	Stiff	Dry to moist	Tree roots
-						3			
- 1 -					EOI at 0.9 m				



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762218 LONGITUDE 151.638399 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COW	WENTS	•							
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP42_0.1 \TP42a_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	3		Dry to moist	
_					Sandy CLAY: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
_						3			
- 0.5	<1	<u>/250</u> \	/TP42_0.5		Sandy CLAY: Medium to high plasticity, grey to brown, near plastic limit, with fine to coarse grained sand. Residual soil. End of intrusive investigation	3	Stiff	Moist	Tree roots
0.5	``		\ASS_TP42_0.5 /			3			
						4			
						3			
						4			
<u> </u>					EOI at 0.9 m				
_									
_									



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762183 LONGITUDE 151.639561 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP43_0.1 \TP43a_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	3		Dry to moist	
_					Silty Sandy CLAY: Medium to high plasticity, light brown, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff	Moist	
- 0.5	<1	<u>/250</u> \	/TP43_0.5 \ASS_TP43_0.5		Sandy Clay: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
_					End of intrusive investigation	3			
_						4			
- 1					EOI at 0.9 m				
_									
			is intended for any						Page 1 of 1



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.761813 LONGITUDE 151.638752 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	MENTS								_
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP44_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	1		Dry to moist	
	<1		, <u></u>		Sandy Silty CLAY: Medium to high plasticity, brown, near plastic limit, with some gravel. Residual soil.	2	Firm	Dry to moist	
-						2			
					Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	1	Firm to very stiff	Dry to moist	
			/TP44_0.5			2			
- 0.5	<1		ASS_TP44_0.5			3			
					End of intrusive investigation	4			
						5			
						5			
<u> </u>					EOI at 0.9 m				
_									
-									
					al numaco				Dog 1 of 1



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 06/04/2021
Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.761888 LONGITUDE 151.639324 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	MENIS	'							
Depth (m)	DIO	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP45_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
	<1		/ IT 43_0.1		Sandy Silty CLAY: Medium to high plasticity, light brown, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
					Sandy Clay Madium to high plasticity gray page	2	Eirm	Dryto	
_					Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	1	Firm	Dry to moist	
- 0.5	<1	<u>/</u> 200 \	/TP45_0.5 \ASS_TP45_0.5			2			
-					Sandy Clay: Medium to high plasticity, grey tending brown, near plastic limit, with fine to coarse grained	3	Stiff	Dry to moist	
_					sand. Residual soil. End of intrusive investigation	3			
-						4			
					EOI at 0.9 m				
- 1									
_									
_									



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.761600 LONGITUDE 151.638537 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP46_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
_					Sandy Clayey SILT: Medium to high plasticity clay, with fine to coarse grained sand and fine to coarse grained gravel. Residual soil.	3	Firm to stiff	Dry to moist	
- 0.5	<1	<u>/250</u> \	/TP46_0.5 \ASS_TP46_0.5		Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Organics present. Residual soil.	2	Stiff	Dry to moist	
_					End of intrusive investigation	6			
-						6			
- 1 -					EOI at 0.9 m				
-									



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Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.761607 LONGITUDE 151.639086 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP47_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
_					Sandy Clayey SILT: Low to medium plasticity clay, with fine to coarse grained sand and fine to coarse grained gravel. Residual soil.	2	Firm	Dry to moist	
- 0.5	<1	√ 300 \	/TP47_0.5 \ASS_TP47_0.5		Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Organics present. Residual soil. End of intrusive investigation	2	Firm	Dry to moist	
_				<u> </u>	The of mitalife investigation	3			
_						6			
- 1					EOI at 0.9 m				
_									
			is intended for any						Page 1 of 1



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 06/04/2021
Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.761585 LONGITUDE 151.639772 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	MENIS								
Depth (m)	DIO	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP48_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
_	<1					3			
_					Sandy CLAY: Medium to high plasticity, brown, near plastic limit, with fine to coarse grained sand. Residual soil.	4	Stiff to firm	Dry to moist	
						2			
0.5	-1	/300 \	/TP48_0.5 \			1			
- 0.5	<1		\ASS_TP48_0.5 /			2			
					End of intrusive investigation	2			
						3			
						5			
<u> </u>					EOI at 0.9 m				
_									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021

Drilling Company Lovett's Earthmoving

Driller RN

Drilling Method 10 T Excavator 400 mm

TOTAL DEPTH 0.6 m

LATITUDE -32.761277 LONGITUDE 151.638631 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COW	MENIS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP49_0.1 \ASS_TP49_0.1		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Moist	
					Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
- 0.5	<1		/TP49_0.5 \ASS_TP49_0.5		Sandy CLAY: Medium to high plasticity, light grey tending red, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
_					EOI at 0.6 m				
<u> </u>									
_									



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CLIENT Avid Property Group Pty Ltd
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Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.6 m

LATITUDE -32.761289 LONGITUDE 151.639281 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

СОМ	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP50_0.1 \		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Moist	
					Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
- 0.5	<1		/TP50_0.5 \ASS_TP50_0.5						
_					EOI at 0.6 m				
_									
 1									
_									



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Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.6 m

LATITUDE -32.760886 LONGITUDE 151.638702 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COW	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP51_0.1		TOPSOIL: Sandy SILT: Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Dry	
- 0.5	<1		/TP51_0.5 \ASS_TP51_0.5		Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
- - - 1					EOI at 0.6 m				



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Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.6 m

LATITUDE -32.761018 LONGITUDE 151.639186 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	WENTS	,							
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP52_0.1		TOPSOIL: Sandy SILT: Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Moist	
- 0.5	<1		/TP52_0.5 \ASS_TP52_0.5		Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
- - - 1					EOI at 0.6 m				



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Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.6 m

LATITUDE -32.761112 LONGITUDE 151.639838 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

СОМ	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		TP53_0.1 ASS_TP53_0.1 TP53_ASB QC07 QC08		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Dry to moist	QC07 and QC08 taken from TP53_0.1
					Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry to moist	
- 0.5	<1		/TP53_0.5 \ASS_TP53_0.5		FOL. 10.6 m				
					EOI at 0.6 m				
- - 1									
-									



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CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

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Drilling Company Lovett's Earthmoving

Driller RN

Drilling Method 10 T Excavator 400 mm

TOTAL DEPTH 0.6 m

LATITUDE -32.760427 LONGITUDE 151.638802 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		TP54_0.1 ASS_TP54_0.1 TP54_ASB		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
- 0.5	<1		/TP54_0.5 \ASS_TP54_0.5		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
_					EOI at 0.6 m				
-									
- 1 -									



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Drilling Company Lovett's Earthmoving

Driller RN

Drilling Method 10 T Excavator 400 mm

TOTAL DEPTH 0.6 m

LATITUDE -32.760620 LONGITUDE 151.639753 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP55_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
- 0.5	<1		/TP55_0.5 \ASS_TP55_0.5		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry to moist	
1					EOI at 0.6 m				
-									



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Drilling Company Lovett's Earthmoving
Driller RN
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.6 m

LATITUDE -32.759970 LONGITUDE 151.639017 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COW	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP56_0.1 \TP56_ASB		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
- 0.5	<1		TP56_0.5 ASS_TP56_0.5		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
-					EOI at 0.6 m				
- - 1									
-									



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Chisholm, NSW

Investigation Date 12/04/2021

Drilling Company Lovett's Earthmoving

Driller RN

Drilling Method 10 T Excavator 400 mm

TOTAL DEPTH 0.8 m

LATITUDE -32.760112 LONGITUDE 151.639845 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP57_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
- 0.5	<1		TP57_0.5 ASS_TP57_0.5 QC25		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
-					EOI at 0.8 m				
- - 1									
-									



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Chisholm, NSW

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Drilling Company Lovett's Earthmoving

Driller

Drilling Method 10 T Excavator 400 mm

TOTAL DEPTH 0.6 m

LATITUDE -32.760080 LONGITUDE 151.640199 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		√TP58_0.1 \		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
_					Sandy CLAY: Medium to high, plasticity, brown mottled orange, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
- 0.5	<1		/TP58_0.5 \ASS_TP58_0.5						
_					EOI at 0.6 m				
-									
<u>-</u> 1									
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759671 LONGITUDE 151.640006 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH59_0.1 \BH59a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH59_0.5 BH59_0.5_ASS			End of intrusive investigation.			
-									
-									



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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759433 LONGITUDE 151.640299 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Samples Samp				nvestigation at 0.6 m i						
Sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil. BH60_0.5 BH60_0.5 BH60_0.5 ASS	Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	plasticity/particle characteristics, colour, minor	Consistency	DCP	Additional Observations
	_			/BH60_0.1			sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,			
End of intrusive investigation.	- 0.5	<1		BH60_0.5 BH60_0.5_ASS						
	_						End of intrusive investigation.			



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DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759097 LONGITUDE 151.640164 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

		I							
Depth (m)	PID	РР (КРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH61_0.1 \BH61a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH61_0.5 BH61_0.5_ASS			End of intrusive investigation.			
-									
_									



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ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758815 LONGITUDE 151.640384 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

-	l		I						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/BH62_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH62_0.5 BH62_0.5_ASS						
						End of intrusive investigation.			
_									
_									



PROJECT NUMBER EP1995
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758346 LONGITUDE 151.640271 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	,		investigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH63_0.1 \BH63a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
– 0.5	<1		BH63_0.5 BH63_0.5_ASS			End of intrusive investigation.			
-						C C C C C C C C C C C C C C C C C C C			
_									



PROJECT NUMBER EP1995
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758107 LONGITUDE 151.640507 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/BH64_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH64_0.5 BH64_0.5_ASS						
						End of intrusive investigation.			
_									



PROJECT NUMBER EP1995
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757863 LONGITUDE 151.640290 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		BH65_0.1 BH65a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
-						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- - 0.5	<1		BH65_0.5 BH65_0.5_ASS						
						End of intrusive investigation.			
-									
_									



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ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757654 LONGITUDE 151.640674 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	I	I	nvestigation at 0.6 m l		I				
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH66_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- - 0.5	<1		BH66_0.5 BH66_0.5_ASS						
						End of intrusive investigation.			
_									
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757403 LONGITUDE 151.640247 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	,		nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH67_0.1 \BH67a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH67_0.5 BH67_0.5_ASS			End of intrusive investigation.			
-									
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756975 LONGITUDE 151.640635 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Samples Samp		MEINTO	LIIG OI	investigation at 0.6 m	DOL					
Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil. BH68_0.5 BH68_0.5 BH68_0.5	Depth (m)	OIA	РР (кРа)	Samples	Is Analysed?	Graphic Log	plasticity/particle characteristics, colour, minor	Consistency	DCP	Additional Observations
- 0.5 <1 BH68_0.5 BH68_0.5_ASS	19 0		dd	/BH68_0.1	151	"5" "5"	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,	03	20	
End of intrusive investigation	- 0.5	<1		BH68_0.5 BH68_0.5_ASS			End of intrusive investigation			
End of intrusive investigation.							End of intrusive investigation.			



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756611 LONGITUDE 151.640851 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Samples Sample				nvestigation at 0.6 m i						
Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil. BH69_0.5 SBH69_0.5 ASS ASS	Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	plasticity/particle characteristics, colour, minor	Consistency	DCP	Additional Observations
	-			/BH69_0.1			sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,			
End of intrusive investigation.	- 0.5	<1		BH69_0.5 BH69_0.5_ASS						
	_						End of intrusive investigation.			



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PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756472 LONGITUDE 151.639987 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	I		nvestigation at 0.6 m l		I			ı	
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH70_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH70_0.5 BH70_0.5_ASS						
						End of intrusive investigation.			
_									
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756936 LONGITUDE 151.640103 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	LITTO		nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/BH71_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and			
_			BH71_0.5 BH71_0.5_ASS			red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH71_0.5_ASS			End of intrusive investigation.			
_									
-									



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PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756134 LONGITUDE 151.640252 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/BH72_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and			
_						red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH72_0.5 BH72_0.5_ASS			End of intrusive investigation.			
_									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756198 LONGITUDE 151.640864 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COM	ILIN IS	LIIU OI I	nvesugation at 0.6 m	JGL.					
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH73_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
-						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH73_0.5 BH73_0.5_ASS						
-						End of intrusive investigation.			
_									



PROJECT NUMBER EP1995
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756058 LONGITUDE 151.639445 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH74_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and			
-			BHZ4 0.5			red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH74_0.5 BH74_0.5_ASS			End of intrusive investigation.			
-						· · · · · · · · · · · · · · · · · · ·			
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756431 LONGITUDE 151.639508 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/BH75_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and			
-			BH75_0.5 BH75_0.5_ASS			red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH75_0.5_ASS			End of intrusive investigation.			
_									
-									



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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756159 LONGITUDE 151.639083 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH76_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,			
_			BH76_0.5 BH76_0.5_ASS			fine sand. Residual soil.			
- 0.5	<1		JBH70_U.3_A33			End of intrusive investigation.			
-									
-									



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DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.755845 LONGITUDE 151.638693 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	ILITIO		nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
Depth (m)	Qi <1 <1	PP (KPa)	BH77_0.5 BH77_0.5_ASS	Is Analyse	Graphic L	plasticity/particle characteristics, colour, minor	Consister	DCP	Some bricks and anthropogenic material at the surface.
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756093 LONGITUDE 151.638665 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Borehole located within the waterway north of the quarry.

						, ,			
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH78_0.1 \BH78a_0.1			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to medium sub-angular gravel, moist. Sandy CLAY: Brown mottled yellow, grey and			Some bricks and anthropogenic material at the surface. Bricks have been used to prevent erosion during periods of high water flow through the area.
						red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH78_0.5 BH78_0.5_ASS			End of intrusive investigation.			
_									



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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.755921 LONGITUDE 151.638490 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH79_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,			
-			ВН79_0.5 ВН79_0.5_ASS			fine sand. Residual soil.			
- 0.5	<1		<u> ДВН79_0.5_ASS</u>			End of intrusive investigation.			
-									
-									



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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756348 LONGITUDE 151.640523 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			_						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1	В.	/BH80_0.1	81		TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	0		
- 0.5	<1		BH80_0.5 BH80_0.5_ASS						
						End of intrusive investigation.			



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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757067 LONGITUDE 151.640811 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/BH81_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and			
_			DUST OF			red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		BH81_0.5 BH81_0.5_ASS			End of intrusive investigation.			
-									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756084 LONGITUDE 151.639867 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH82_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,			
- 0.5	<1		BH82_0.5 BH82_0.5_ASS			fine sand. Residual soil.			
- 0.5	<1					End of intrusive investigation.			
-									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/04/2021
DRILLING COMPANY EP Risk
DRILLER LK
DRILLING METHOD Hand Auger
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.755885 LONGITUDE 151.638890 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/BH83_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,			
_ _ _ 0.5	<1		BH83_0.5 BH83_0.5_ASS			fine sand. Residual soil.			
						End of intrusive investigation.			
_									
-									



TEST PIT 84

PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759726 LONGITUDE 151.638497 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	1		Trestigation a					1	
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP84_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
_			<u></u>			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm	2	
_								4	
_								2	
			/TP84_0.5 \					2	
- 0.5	<1		<u></u>					2	
						End of intrusive investigation.		2	
_								2	
								2	
								2	
1						End of Dynamic Cone Penetrometer testing.			



TEST PIT 85

PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759800 LONGITUDE 151.638739 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \											
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations			
-	<1		TP85_0.1 \TP85_ACM			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.			Anthropogenic material: Brick and tile waste mateial.			
- 0.5	<1		√TP85_0.5 \			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm	2	Started DCP within the test pit beneath the fill material layer.			
0.0	~1							2				
						End of intrusive investigation.		5				
								5				
								5				
								7				
1								5				
								6				
								8				
						End of Dynamic Cone Penetrometer Testing.						
1.5												
Nia ala						al and goots chaired aurages			Dogo 1 d			



TEST PIT 86

PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759836 LONGITUDE 151.639296 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP86_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		4	
_			7			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
-								3	
_								2	
0.5			/TP86_0.5 \					3	
- 0.5	<1							2	
-						End of intrusive investigation.		2	
_								3	
_								4	
1								4	
						End of Dynamic Cone Penetrometer testing.			
_									
_									
_									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759857 LONGITUDE 151.639687 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP87_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		4	
			TP87a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
-								3	
-								3	
0.5			/TP87_0.5 \					3	
- 0.5	<1		<i>J</i> = 1					2	
					· / /	End of intrusive investigation.		2	
								2	
								4	
1								4	
						End of Dynamic Cone Penetrometer testing.			
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759639 LONGITUDE 151.639541 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a		_				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		√TP88_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
-			TP88a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
_								2	
_								3	
-			/TP88_0.5 \					2	
- 0.5	<1		<u> </u>					2	
						End of intrusive investigation.		2	
-								2	
-								3	
								3	
1						End of Dynamic Cone Penetrometer testing.			
_									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 08/03/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759819 LONGITUDE 151.639051 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a		_				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP89_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		6	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	3	
_								2	
- 0.5	<1		/TP89_0.5 \					3	
_						End of intrusive investigation.		2	
_								3	
- 1						End of Dynamic Cone Penetrometer testing.		5	
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_									
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759498 LONGITUDE 151.638886 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	РР (КРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP90_0.1 \ \TP90a_0.1/			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.			Anthropogenic material: Brick and tile waste mateial.
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	Started DCP within the test pit beneath the fill material layer.
								2	·
0.5	<1		/TP90_0.5 \					2	
					Z::::/:	End of intrusive investigation.		3	
								3	
								3	
1								4	
								5	
						End of Dynamic Cone Penetrometer Testing.			
						End of Dynamic Cone i Gretionicter resulty.			



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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759521 LONGITUDE 151.638613 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP91_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
_					}	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
_								3	
- 0.5	<1		/TP91_0.5 \					3	
_					.: <i>/</i> :	End of intrusive investigation.		2	
_								3	
_								3	
_						End of Dynamic Cone Penetrometer testing.			
_									
_									



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DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.5 m BGL

LATITUDE -32.759469 LONGITUDE 151.638331 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.5 m BGL. Mound of natural soil/Fill material, approximately 0.5 m high. Log starts at surface of mound.

			_			711			
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		TP92_0.1 TP92a_0.1		\bigotimes	FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel.			Mound of material, 0.5 meters above ground level.
_									
_									
- 0.5	<1		/TP92_0.5 \						
_					$\overset{>\!\!>\!\!>}{//}$	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to very stiff.	1	Started DCP within the test pit beneath the fill material layer.
_								4	
_								7	
1 					· · /. · · · /	End of intrusive investigation.		8	
-								REF	
						End of Dynamic Cone Penetrometer Testing.			
– 1.5									



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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759279 LONGITUDE 151.638283 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a	. 0.0					
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP93_0.1 \		******	TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		3	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit,	Firm to stiff.	1	
_						fine sand. Residual soil.		2	
- 0.5	<1		/TP93_0.5 \					2	
_						End of intrusive investigation.		2	
_								3	
_								3	
-1						End of Dynamic Cone Penetrometer testing.			
_									
_ _									
_									



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DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759402 LONGITUDE 151.639319 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a		_				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP94_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
			<u>/ 11 94_</u> 0.1 \			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
-								2	
-								3	
-			/TP94_0.5 \					2	
- 0.5	<1		711 34 <u>0.3 (</u>					2	
-					· · · · · · · · ·	End of intrusive investigation.		2	
_								5	
-								5	
-								6	
1-1-						End of Dynamic Cone Penetrometer testing.			



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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759446 LONGITUDE 151.639631 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

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	Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
		<1		/TP95_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		0	
				\TP95a_0.1/					1	
							Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Soft	1	
F								Firm to stiff.	2	
				/TP95_0.5 \					2	
	- 0.5	<1		<u> </u>					3	
							End of intrusive investigation.		3	
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									3	
	1						End of Dynamic Cone Penetrometer testing.			
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}										



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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759231 LONGITUDE 151.639804 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a	. 0.0					
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP96_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
- 0.5	<1		√TP96_0.5 \					2	
_						End of intrusive investigation.		2	
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_								9	
- 1						End of Dynamic Cone Penetrometer testing.			
_									
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DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.8 m BGL

LATITUDE -32.759180 LONGITUDE 151.639379 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.8 m BGL. Mound of natural soil/Fill material, approximately 0.8 m above ground level.

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Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1					FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular			Wood branches in the top layer of FILL.
-			TP97_0.1 \TP97a_0.1/			gravel.			Mound of material, 0.8 meters above ground level. The mound is identified as SP10.
					\bowtie				
- 0.5	<1								
-					\bowtie				
-					\bowtie				
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
			(TD07.40)					4	
- 1			<u>/TP97_1.0</u> \					3	
_								3	
-								3	
_								3	
_									
- 1.5								3	
1.5								3	
-					/:-/:	End of intrusive investigation.		4	
-								6	
						End of Dynamic Cone Penetrometer Testing.			
						Lind of Dynamic Conc r Glieuchieter resurig.			



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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759171 LONGITUDE 151.639069 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

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CP within the test n the fill material
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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759225 LONGITUDE 151.638811 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMN									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP99_0.1 \			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		3	
_			J 11 00_0.1 \					6	
_								6	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
-			TP99_0.5 \					3	
- 0.5	<1		<u> </u>					3	
-					<u> </u>	End of intrusive investigation.		4	
-								4	
_								5	
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1						End of Dynamic Cone Penetrometer testing.			
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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759078 LONGITUDE 151.638887 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a		_				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP100_0.1\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
_	,		/TP100_0.5\					3	
- 0.5 -	<1					End of intrusive investigation.		3	
_								3	
_								4	
1-1-						End of Dynamic Cone Penetrometer testing.			
_									
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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759192 LONGITUDE 151.638488 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COIVIIV			nvestigation a	. 0.0					
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP101_0.1\ \TP101a_0./i			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	1	
- 0.5	<1		/TP101_0.5\					2	
-						End of intrusive investigation.		4	
_								2	
- 1						End of Dynamic Cone Penetrometer testing.		2	
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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.4 m BGL

LATITUDE -32.759126 LONGITUDE 151.638242 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.4 m BGL. Mound of natural soil/Fill material, approximately 0.8 m above ground level.

	1	I	T			mount of flataral solly in flaterial, approximately 0.0	<u> </u>	Ι	
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
- 0.5 1	<1		TP102_0.1\ TP102a_0.f			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Brick and wood material throughout the surface of the mound. FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			Brick and wood anthropogenic waste in the top layer of FILL. Mound of material, 0.8 meters above ground level. The mound formed a portion of the quarry embankment on the southern side.
- - 1.5									



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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759126 LONGITUDE 151.639649 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	IENTS		ı						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP103_0.1\		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
_			TP103_0.1					3	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
_								3	
_								3	
- 0.5	<1		/TP103_0.5\					3	
_						End of intrusive investigation.		4	
_								4	
_								5	
_								6	
1-						End of Dynamic Cone Penetrometer testing.			
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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758923 LONGITUDE 151.639734 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1					Clayey Gravelly SAND: Fine to coarse grained sand, grey and orange, dry, fine to coarse sub-angular gravels. Residual soil.		8	
								REF	DCP refusal on sandstone
									gravels.
0.5	<1		/TP104_0.5\			XW SANDSTONE: Fine grained sand, dry, low			
						strength, yellow and orange. EOI at 0.6 m.			
1									



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DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.759006 LONGITUDE 151.639937 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a	. 0.0	2 0 2 .				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP105_0.1\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		3	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
_								3	
- 0.5	<1		/TP105_0.5\					3	
_						End of intrusive investigation.		3	
_								4	
_								4	
_						End of Dynamic Cone Penetrometer testing.			
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_									



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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758782 LONGITUDE 151.639987 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	IENIS								
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP106_0.1\ \TP106a_0.f\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		5	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
_								2	
- 0.5	<1		/TP106_0.5\					2	
_						End of intrusive investigation.		4	
_								7	
_								8	
-1-						End of Dynamic Cone Penetrometer testing.			
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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758588

LONGITUDE 151.639922

SURFACE ELEVATION

LOGGED BY LK

CHECKED BY PS

OOMI	ILIATO I		nvestigation a	. 0.0	III DOL.				
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP107_0.1\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
								1	
-						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
_								2	
- 0.5	<1		/TP107_0.5\					2	
_						End of intrusive investigation.		2	
-						•		2	
								3	
_								3	
1						End of Dynamic Cone Penetrometer testing.			
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DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758416 LONGITUDE 151.640105 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			nvestigation a	. 0.0					
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP108_0.1\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
			<u>/ 11 100_0.11</u>			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
								2	
_								2	
			/TP108_0.5\					4	
- 0.5	<1							5	
						End of intrusive investigation.		6	
								8	
								10	
								10	
,						End of Dynamic Cone Penetrometer testing.			
_									
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DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.0 m BGL

LATITUDE -32.758267 LONGITUDE 151.639998 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 1.0 m BGL. Test pit located on the eastern wall of the quarry.

			Ι	ı .	I				
Depth (m)	PID	РР (КРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP109_0.1\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
_			J 11 100_0.11					1	
-						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
_								2	
-			/TP109_0.5\					2	
- 0.5	<1		711 103_0.51					2	
-					<u> </u>	End of intrusive investigation.		4	
-								4	
-								4	
-								5	
1						End of Dynamic Cone Penetrometer testing.			
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758125 LONGITUDE 151.640176 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	LITTO		nvestigation a	. 0.0					
Depth (m)	DIA	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP110_0.1\			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
-			<u>/ 11 110_0.11</u>					3	
-								3	
_						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	4	
			/TP110_0.5\					3	
- 0.5	<1		<u> </u>					3	
-					<u> </u>	End of intrusive investigation.		3	
_								4	
_								4	
_								5	
1						End of Dynamic Cone Penetrometer testing.			
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757789 LONGITUDE 151.639747 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

	Similario End of investigation at 0.0 in 20							I	
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP111_0.1\ \TP111a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste mateial.
_						Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
0.5	<1		/TP111_0.5\						
_						End of intrusive investigation.			
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758334 LONGITUDE 151.637857 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP112_0.1 \TP112a_0.1			FILL: Sandy CLAY with gravel: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, fine to medium sub-angular gravels.			Some Brick scattered on the surface. Mound of material 0.4 m above ground level.
- 0.5	<1		/TP112_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of Intrusive Investigation 0.6 m BGL.			
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757918 LONGITUDE 151.637860 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP113_0.1 \TP113a_0.1			FILL: Sandy CLAY with gravel: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, fine to medium sub-angular gravels.			Some Brick scattered on the surface. Mound of material 0.4 m above ground level.
- 0.5	<1		/TP113_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of Intrusive Investigation 0.6 m BGL.			
1									



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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757623 LONGITUDE 151.637804 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP114_0.1 \TP114a_0.1			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, fine to medium sub-angular gravels.			Some Brick scattered on the surface. Mound of material 0.4 m above ground level.
- 0.5	<1		/TP114_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
-						End of Intrusive Investigation 0.6 m BGL.			
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-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758102 LONGITUDE 151.637986 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP115_0.1			FILL: Silty SAND: Brown, fine to coarse sand, moist, loose.			Some Brick scattered on the surface.
			\TP115a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
- 0.5	<1		/TP115_0.5						
- 0.5	/1								
						End of Intrusive Investigation			
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ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757749 LONGITUDE 151.637949 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

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Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP116_0.1			FILL: Silty SAND: Brown, fine to coarse sand, moist, loose.			Some Brick scattered on the surface.
_			TP116a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
- 0.5	<1		/TP116_0.5						
_						End of Intrusive Investigation			
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021

DRILLING COMPANY Lovett's Earthmoving

DRILLER RN

DRILLING METHOD 10 T Excavator 400mm

TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757243 LONGITUDE 151.637869 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

			Γ					I	
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP117_0.1 \TP117a_0.1			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, trace sub angular gravels. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			Some Brick scattered on the surface. Mound of material 0.1 m above ground level.
_						End of Intrusive Investigation 0.6 m BGL.			
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757412 LONGITUDE 151.637962 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

		I	nvesugation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP118_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
_			TP118a_0.1 QC21 QC22			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
- 0.5	<1		/TP118_0.5						
						End of lateracina laure streeting			
-						End of Intrusive Investigation			
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PROJECT NUMBER EP1995
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021

DRILLING COMPANY Lovett's Earthmoving

DRILLER RN

DRILLING METHOD 10 T Excavator 400mm

TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756795 LONGITUDE 151.638022 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

		1	I		1	ining along the western boundary of the quarry.		1	
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP119_0.1			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, trace sub angular gravels. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
- 0.5	<1		/TP119_0.5						
						End of Intrusive Investigation 0.6 m BGL.			
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PROJECT NUMBER EP1995
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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757050 LONGITUDE 151.638044 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	ILITIO I		nvesugation at 0.6 m i						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP120_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
-			\TP120a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
_			/TP120_0.5						
- 0.5	<1		711 120_0.5			End of Intrusive Investigation			
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756453 LONGITUDE 151.638149 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

		I			l			1	
Depth (m)	DIO	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
- 0.5	<1		TP121_0.1 TP121a_0.1 QC23 QC24 TP121_0.5			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, trace sub angular gravels. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.756628 LONGITUDE 151.638178 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

L				investigation at 0.0 m i			,		1	
	Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
		<1		/TP122_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
							Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
-										
_	0.5	<1		/TP122_0.5 \			End of Intrusive Investigation			
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.0 m

LATITUDE -32.756970 LONGITUDE 151.638881 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile of material approximately 0.8 m Above ground level. Log begins at 0.8 m above ground level.

	1		T			r bove ground level. Log begins at 0.0 iii above groun			
Depth (m)	DIO	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
- 0.5	<1		TP123_0.1 QC15 QC16 TP123a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub-angular gravel			No anthropogenic material
-						XW SHALE: Low strength, dry, fine grained, black and grey.			
-						End of Intrusive Investigation			



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CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.0 m

LATITUDE -32.756861 LONGITUDE 151.639044 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile of material approximately 0.8 m Above ground level. Log begins at 0.8 m above ground level.

	1				1	v more ground level. Log begins at 0.0 in above groun		1	1
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP124_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub-angular gravel XW SHALE: Low strength, dry, fine grained, black and grey.			No anthropogenic material
						End of Intrusive Investigation			



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DRILLING DATE 12/04/2021

DRILLING COMPANY Lovett's Earthmoving

DRILLER RN

DRILLING METHOD 10 T Excavator 400mm

TOTAL DEPTH 0.6 m

LATITUDE -32.757262 LONGITUDE 151.639381 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Located on an access track

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP125_0.1 \			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub-angular gravels.			No anthropogenic material
- 0.5	<1		/TP125_0.5			XW SHALE: Low strength, dry, fine grained, black and grey. End of Intrusive Investigation			
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PROJECT NUMBER EP1995
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ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.757344 LONGITUDE 151.639165 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Located on access track

			on access track						
Depth (m)	DIO	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP126_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			No anthropogenic material
- 0.5	<1		/TP126_0.5			XW SHALE: Low strength, dry, fine grained, black and grey.			
-						End of Intrusive Investigation			
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PROJECT NUMBER EP1995
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ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021

DRILLING COMPANY Lovett's Earthmoving

DRILLER RN

DRILLING METHOD 10 T Excavator 400mm

TOTAL DEPTH 0.6 m

LATITUDE -32.757350 LONGITUDE 151.639574 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Located on access track

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
-	<1		/TP127_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub-angular gravels.			No anthropogenic material
- 0.5	<1		/TP127_0.5			XW SHALE: Low strength, dry, fine grained, black and grey. End of Intrusive Investigation			
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
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DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

EASTING -32.452696 NORTHING 151.382365 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP128_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
-									
- 0.5	<1		/TP128_0.5						
						End of Intrusive Investigation			
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PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.757485 LONGITUDE 151.639646 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP129_0.1\ \TP129_AC/			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
						Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub-angular sandstone gravels.			
0.5	<1		/TP129_0.5\						
						End of intrusive investigation.			
1									



PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation **CLIENT** Avid Property Group ADDRESS 487 Raymond Terrace Rd, Chisholm DRILLING METHOD 10 T Excavator 400mm NSW

DRILLING DATE 12/04/2021 **DRILLING COMPANY** Lovett's Earthmoving DRILLER RN TOTAL DEPTH 0.6 m

LATITUDE -32.758536 **LONGITUDE** 151.638353 SURFACE ELEVATION LOGGED BY LK **CHECKED BY** PS

COMMENTS Access track, brick and tiles.

	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1		/TP130_0.1 TP130a_0.1 QC17			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Bricks and tiles.
		(UC 16			Sandy CLAY: Brown mottled yellow, grey and			No anthropogenic material
-11		/TP130_0.5			red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
<1					End of Intrusive Investigation			
	<1	<1	TP130a_0.1 QC17 QC18	TP130a_0.1 QC17 QC18	TP130a_0.1 QC17 QC18	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.



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DRILLING DATE 12/04/2021

DRILLING COMPANY Lovett's Earthmoving

DRILLER RN

DRILLING METHOD 10 T Excavator 400mm

TOTAL DEPTH 0.6 m

LATITUDE -32.758199 LONGITUDE 151.638640 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Located within the access track

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP131_0.1 \TP131a_0.1	+		FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Brick and tiles within the access track.
0.5	<1		√TP131_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			No anthropogenic material
						End of Intrusive Investigation			



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 3.2 m

LATITUDE -32.757745 LONGITUDE 151.638813 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile in the central west of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		TP132_0.1 \TP132_ACM			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
 0.5 	<1		/TP132_0.5					
1 1.5								
- - - - - 2								
- - - - - 2.5 -								
- - - 3 -						XW SHALE: Low strength, dry, fine grained, black and grey.		
- -						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 3.2 m

LATITUDE -32.757548 LONGITUDE 151.638978 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile in the central west of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		TP133_0.1 TP133a_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
- - 0.5 - - -	<1		/TP133_0.5					
1 1.5								
- - - - - 2								
- - - - - 2.5								
- - - - 3						XW SHALE: Low strength, dry, fine grained, black and grey.		
_						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 3.2 m

LATITUDE -32.757768 LONGITUDE 151.639140 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile in the central east of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		TP134_0.1 TP134a_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5 	<1		/TP134_0.5					
1 1.5								
- - - - - 2								
- - - 2.5 -								
- - - 3 -						XW SHALE: Low strength, dry, fine grained, black and grey.		
_						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 2.2 m

LATITUDE -32.757925 LONGITUDE 151.638968 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile in the central east of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

		- Ctookpii	T		1	approximately 3.0 m above ground level. Log starting at the	top or	and stookpile
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		TP135_0.1 TP135a_0.1 QC19 QC20			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
- 0.5 - -	<1		/TP135_0.5					
- 1								
- 1.5 - -								
- - 2 -						XW SHALE: Low strength, dry, fine grained, black and grey. End of Intrusive Investigation		
-								



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.757984 LONGITUDE 151.638405 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COIVIIV	IENIS								
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP136_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
			7 · · · · · · · · · · · · · · · · · · ·			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
- 0.5	<1		/TP136_0.5						
						End of Intrusive Investigation			
-									
-									
-									
- 1									
-									
-									
-									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021

DRILLING COMPANY Lovett's Earthmoving

DRILLER RN

DRILLING METHOD 10 T Excavator 400mm

TOTAL DEPTH 2.0 m

LATITUDE -32.758945 LONGITUDE 151.638225 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Test pit advanced in the side of a stockpile approximately 1.8 m above ground level.

PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observation
<1					FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub			Bricks on the surface.
		/TP137_0.1	-		angular gravels.			No anthropogenic mater
					FILL: Sandy CLAY with gravel: Brown and orange, medium to high plasticity clay, near plastic limit, fine to coarse sand, fine to medium sub-angular gravels.			No anunopogenie mater
E .4		/TP137_0.5		\bowtie	}			
5 <1								
5					Sondy CLAY Province and the destination			
					Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.3 m

LATITUDE -32.758618 LONGITUDE 151.639166 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		/TP138_0.1 \			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels. XW SHALE: Low strength, dry, fine grained, black and grey		Bricks and tiles on the surface.
_						End of Intrusive Investigation		
-								
- 0.5 -								
_								
-								



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 3.2 m

LATITUDE -32.758496 LONGITUDE 151.638696 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile mound of material on the southern boundary of the quarry.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP139_0.1 TP139a_0.1	-		FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP139_0.5					
1								
1.5								
2								
2.5								
3						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand,	-	



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758843 LONGITUDE 151.639406 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP140_0.1\ \TP140_AC/			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste mateial.
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual.			
- 0.5	<1		TP140_0.5\			Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
						End of intrusive investigation.			
1									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758449 LONGITUDE 151.639568 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	•								
Depth (m)	DIO	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	рсР	Additional Observations
-	<1		/TP141_0.1\ \TP141a_0./i			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste mateial.
						Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
0.5	<1		/TP141_0.5\						
						End of intrusive investigation.			
1									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 06/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m BGL

LATITUDE -32.758080 LONGITUDE 151.639750 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (КРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP142_0.1\ \TP142_AC/			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
						Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
0.5	<1		/TP142_0.5\						
						End of intrusive investigation.			
1									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758354 LONGITUDE 151.639063 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COIVIIV									
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP143_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
- 0.5	<1		<u>/</u> TP143_0.5 \			XW SHALE: Low strength, dry, fine grained,			
						black and grey.			
-						End of Intrusive Investigation			
- 1									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.3 m

LATITUDE -32.758774 LONGITUDE 151.639221 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
-	<1		/TP144_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels. XW SHALE: Low strength, dry, fine grained, black and grey.		Bricks and tiles on the surface.
_						End of Intrusive Investigation		
_								
- 0.5 -								
_								



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.7 m

LATITUDE -32.758530 LONGITUDE 151.638966 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile mound of material on the southern boundary of the quarry.

Depth (m)	PIO	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		/TP145_0.1 \TP145a_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
- 0.5	<1		TP145_0.5					
- 1								
- 1.5						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758617 LONGITUDE 151.637974 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	_		,						
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP146_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Bricks on the surface.
_			\TP146_ACM			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			No anthropogenic material
_									
- 0.5	<1		/TP146_0.5						
_						End of Intrusive Investigation			
_									
_ _ 1									
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_									
	1	L	l		l				



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758390 LONGITUDE 151.638128 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COIVIIV	ILIVIO								
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		/TP147_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
_									
- 0.5	<1		/TP147_0.5			XW SHALE: Low strength, dry, fine grained,			
						black and grey.			
						End of Intrusive Investigation			
<u> </u>									
_									
_									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.7582163 LONGITUDE 151.6382820 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COIVIIV								
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
- 0.5	<1	ad .	/TP148_0.1	7 SI	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets. Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil. End of Intrusive Investigation	0 O O O O O O O O O O O O O O O O O O O	No anthropogenic material.



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 1.6 m

LATITUDE -32.757401 LONGITUDE 151.638643 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Mound of stockpiled material in the centre of the quarry. Log starts on top of stockpile approximately 1.5 m above ground level.

<′	<1		Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
		/TP149_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel		No anthropogenic material
	<1	/TP149_0.5					
1.5					Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758792 LONGITUDE 151.637908 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Mound of stockpiled material on the western edge of the quarry. Approximately 1.0 m above ground level.

	COMMENTS Mound of stockpiled material on the western edge of the quarry. Approximately 1.0 m above ground level.											
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations				
-	<1		/TP150a_0.1			FILL: Sandy CLAY with gravel: Medium to high plasticity, brown to orange and yellow, near plastic limit, fine to coarse grained sand, fine to coarse grained sub-angular gravel.		Brick and tile found throughout entire layer.				
- 0.5 - - - -	<1		TP150_0.5									
- - - -1.5						Sandy CLAY: Medium to high plasticity, brown mottled						
- - - - 2			/TP150_2.0			yellow, grey and red, near plastic limit, fine to medium grained sand. Residual soil.						
						End of Intrusive Investigation						



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.7 m

LATITUDE -32.758401 LONGITUDE 151.638467 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Side of access track.

Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
_	<1		/TP151 0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets. Sandy CLAY: Brown mottled yellow, grey and			No anthropogenic material
- - - 0.5	<1		<u>√TP151_0.5</u>			red, medium to high plasticity, near plastic limit, fine sand. Residual soil. XW SHALE: Dry, fine grained, black and grey, low strength.			
_						End of Intrusive Investigation			
_									
– 1									
_									
_									
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.9 m

LATITUDE -32.756969 LONGITUDE 151.639271 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Stockpile of material approximately 0.8 m Above ground level. Log begins at 0.8 m above ground level.

				15	50	Metavial Decaviations Call turns	Y		
Depth (m)	PID	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
- - - 0.5	<1		/TP152 0.1 \TP152a 0.1	1		FILL: Silty SAND: Brown, fine to coarse sand, moist, fine to medium sub angular gravel			No anthropogenic material
_						XW SHALE: Dry, fine grained, black and grey, low strength.			
- 1						End of Intrusive Investigation			
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.763765 LONGITUDE 151.637427 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
- 0.5		<u>/400 \</u>	TP153 0.1 TP153a 0.1 ✓ TP153 0.5		FILL: Gravelly Sandy SILT: Non plastic, light brown, fine to coarse grained sand, and fine to coarse sub-angular gravels. Sandy CLAY: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil. End of intrusive investigation	431256	Firm to Very Stiff	Dry to Moist Dry to Moist	Disturbed gravel surface
- 1					End of Dynamic Cone Penetrometer testing at 0.9m				



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.762484 LONGITUDE 151.637966 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COIVI	MENTS								
Depth (m)	DIO	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP154_0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand.	5		Dry to moist	
_			TP154a_0.1	\bigotimes		4			
-					Sandy CLAY: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil.	2	Stiff	Dry	
						3			
0.5		√ 450 \	/TP154_0.5 \			5			
- 0.5					End of intrusive investigation	4			
						7			
						8			
						9			
<u> </u>					End of Dynamic Cone Penetrometer testing at 0.9m				
_									
_									
					al and gootschnisel numeeos				Page 1 of 1



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.761486 LONGITUDE 151.637845 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

	WIENIS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP155_0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand and some coal chitter.	3		Dry	Brick and tiles
_			/TF 135_0.1 \			3			
-					Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff to Very Stiff	Dry	
-						5			
-		/350 \	/TP155_0.5		End of intrusive investigation	5			
- 0.5		7000 (711 100 0.0	Z	, End of mitality investigation	4			
_						6			
						5			
						6			
- 1					End of Dynamic Cone Penetrometer testing at 0.9m				



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 1.0 m

LATITUDE -32.761964 LONGITUDE 151.637834 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			√TP156_0.1		FILL: Sandy SILT: Non plastic, light brown, with fine to coarse grained sand.	2		Dry to moist	Road base, brick and tiles
			TP156a 0.1			3			
		√ 450 \	/TP156 0.3		Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff	Dry	
					End of intrusive investigation	2			
- 0.5						2			
						6			
_						6			
_						8			
_						10			
1-1-					End of Dynamic Cone Penetrometer testing at 1.0m				
_									
_									
			is intended for any						Dog 1 of 1



Borehole 157

PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company EP Risk
Driller GR
Drilling Method Hand Auger
TOTAL DEPTH 0.4 m

LATITUDE -32.77550 LONGITUDE 152.638222 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
-			BH157 0.1 BH157a 0.1		FILL: Silty SAND: fine to coarse grained, with fine to course grained sub-angular gravel.			Dry	Brick and tiles.
					FILL: Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.			Dry	
- 0.5					EOI at 0.4 m				
-									
_									
-									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.760836 LONGITUDE 151.638459 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	WIENIS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP158_0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand and some coal chitter.	2		Dry	Brick and tiles
			7 100_0	\bigotimes		1			
					Sandy CLAY: Medium to high plasticity, grey and brown mottled, near plastic limit, fine to coarse grained sand. Residual soil.	2	Firm to Stiff	Dry	
_						3			
- 0.5		/300 \	/TP158_0.5			3			
0.5					End of intrusive investigation	5			
						6			
						5			
						9			
- 1					EOI at 0.9 m				
_									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 1.0 m

LATITUDE -32.760571 LONGITUDE 151.638514 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

Consistency Consi	Moisture	Additional Observations
FILL: Silty SAND: Fine to coarse grained, light brown, non plastic, some coal chitter. Dry	у	
4		
3 /500 \/TP159_0.5		
- 0.5	pist	
4 / End of intrusive investigation		
5		
End of Dynamic Cone Penetrometer testing at 1.0m		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.760849 LONGITUDE 151.638046 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

CON	WIENIS	,							
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP160_0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand.	4		Dry	Brick and tiles
_			7 TF 100 0.1			4			
_					Sandy CLAY: Medium to high plasticity, grey and brown mottled, non plastic limit, fine to coarse grained sand. Residual soil.	4	Stiff to Very Stiff	Dry	
_						4			
- - 0.5		√ 250 \	/TP160_0.5			4			
0.5					End of intrusive investigation	4			
						5			
						4			
						5			
- 1					End of Dynamic Cone Penetrometer testing at 0.9m				



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.760946 LONGITUDE 151.637711 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
-			/TP161_0.1 \TP161_ASB_0.1/		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand. Sandy CLAY: Medium to high plasticity, grey and brown mottled, near plastic limit, fine to coarse grained sand. Residual soil.	4	Firm to Very Stiff	Dry Dry	Brick and coal chitter layer
- 0.5		<u>/50</u> \	<u>/TP161_0.5</u> \		End of intrusive investigation	5			
_						10			
- 1 -					End of Dynamic Cone Penetrometer testing at 0.9m				



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 1.1 m

LATITUDE -32.760414 LONGITUDE 151.638297 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

	VIENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
- - - - - -			√TP162_0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand. As above with some clay clumps and crushed brick Sandy CLAY: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil. EOI at 1.1m			Dry	Brick and tiles
ш						L		l	



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.760101 LONGITUDE 151.638500 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

	WENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP163_0.1		FILL: Silty SAND: Fine to coarse grained, brown, non plastic.	4		Dry	Brick and tile.
-			71F 103_0.1			4			
_						4			
_					Sandy CLAY: Medium to high plasticity, brown and orange mottled, near plastic limit, fine to coarse grained sand. Residual soil.	2	Firm to Stiff	Dry	
_		(150)	(TD400 0 5			2			
- 0.5		<u>/</u> 450 ∖	/TP163_0.5 \			3			
_				<i>[]</i>	End of intrusive investigation	4			
-						6			
-						5			
					End of Dynamic Cone Penetrometer testing at 0.9m				
- 1									



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 1.1 m

LATITUDE -32.762016 LONGITUDE 151.637076 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

CONI	WIENIS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			/TP164_0.1		FILL: Silty SAND: Fine to coarse grained, light brown, non plastic.	5		Dry	Brick and coal chitter layer
_			711 104_0.1			7			
					Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.	5	Stiff to Very Stiff	Dry	
						4			
0.5		/350 \	/TP164_0.5			2			
- 0.5					Sandy Gravelly CLAY: Medium plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand, fine to coarse grained sub-angular gravels. Residual soil.	1	Soft to Stiff	Dry	
						2			
						2			
_						2			
- 1									
					XW SANDSTONE: Orange and yellow, dry, low strength, fine to coarse grained sand.				
					EOI at 1.1 m				



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 1.2 m

LATITUDE -32.763894 LONGITUDE 151.636772 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COMI									
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
- 0.5		250	√TP165 0.1 ↑TP165 ASB 0.1 ✓TP165 0.5		FILL: Gravelly, Sandy SILT: Non plastic, light brown, fine to coarse grained sand, some fine to coarse sub-angular gravels, and some coal chitter. XW SHALE: Fine grained, grey and dark grey, dry, low strength. EOI at 1.2 m	2 REF		Dry	Brick and tiles.



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group Pty Ltd
ADDRESS 487 Raymond Terrace Road,
Chisholm, NSW

Investigation Date 12/04/2021
Drilling Company Lovett's Earthmoving
Drilling Method 10 T Excavator 400 mm
TOTAL DEPTH 0.9 m

LATITUDE -32.763336 LONGITUDE 151.638432 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS

COM	MENTS								
Depth (m)	PID	РР (кРа)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
_	<1		/TP166_0.1		FILL: Sandy SILT: Non plastic, light grey, fine to coarse grained sand, some fine to coarse sub-angular gravels, and some coal chitter.	3		Dry to Moist	Brick and tiles
				\bigotimes		4			
						4			
		/400 \	TD400.05	\bigotimes		4			
- 0.5	<1	<i>]</i> 400 \	<u> </u>		Sandy CLAY: Medium to high plasticity, red, near plastic limit, fine to coarse grained sand. Residual soil.	4	Stiff to Very Stiff	Dry to Moist	
-						5			
_					End of intrusive investigation	5			
						6			
					End of Dynamic Cone Penetrometer testing at 0.9m				
-1									
-									
-									
									Dogo 1 of 1



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.7588261 LONGITUDE 151.6390930 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	1	· ·		1	I	l		
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
- 0.5	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil. XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		No anthropogenic material.
_						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758698 LONGITUDE 151.639013 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMIN	1				1			Γ
Depth (m)	OIA	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
- 0.5	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil. XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		No anthropogenic material.
_						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758728 LONGITUDE 151.639065 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

	1	· ·		1	I	l		
Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
- 0.5	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil. XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		No anthropogenic material.
_						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 3.2 m

LATITUDE -32.758625 LONGITUDE 151.638712 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

COMMENTS Test pit on top of a stockpile on the southern side of the quarry 3.0m above ground level.

Depth (m)	OIA	РР (кРа)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1					FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		Logs and rock fragments throughout mound. No anthropogenic waste.
0.5	<1							
.5								
.5								
						Sandy CLAY: Medium to high plasticity, brown mottled yellow, grey and red, near plastic limit, fine sand. Residual soil. End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758754 LONGITUDE 151.638710 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
- 0.5	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil. XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		No anthropogenic material.
_						End of Intrusive Investigation		



PROJECT NUMBER EP1995
PROJECT NAME Detailed Site Investigation
CLIENT Avid Property Group
ADDRESS 487 Raymond Terrace Rd, Chisholm
NSW

DRILLING DATE 12/04/2021
DRILLING COMPANY Lovett's Earthmoving
DRILLER RN
DRILLING METHOD 10 T Excavator 400mm
TOTAL DEPTH 0.6 m

LATITUDE -32.758796 LONGITUDE 151.638428 SURFACE ELEVATION LOGGED BY LK CHECKED BY PS

Depth (m)	PID	РР (кРа)	Samples	ls Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
- 0.5	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil. XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		No anthropogenic material.
_						End of Intrusive Investigation		



Appendix C ANALYTICAL LABORATORY REPORTS

EP1995 30 August 2021 Page 26



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

California Bearing Ratio Test Report

EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: -TRN: -

Report No: CBR:NEWC21S-01813



Sampling Method: Submitted by client

Existing Ground

No Specification

On-Site

Accredited for compliance with ISO/IEC 17025 -Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers



Approved Signatory: Chris Blackford

(Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 25/03/2021

Sample Details

Sample ID: NEWC21S-01813

Client ID:

Date Sampled: 8/03/2021

Date Submitted: 9/03/2021 Date Tested: 18/03/2021

Project Location: Chisholm, NSW Sample Location: TP04 - 0.5 - 0.8m



Material:

Source:

Specification:

Load vs Penetration 0.6 Load on Piston (kN) 2.0 3.0 4.0 6.0 9.0 10.0 11.0 12.0 13.0 Penetration (mm)

Test Results

CBR at 2.5mm (%): 1.5 Dry Density before Soaking (t/m3): 1.46 Density Ratio before Soaking (%): 100.5 Moisture Content before Soaking (%): 27.0 Moisture Ratio before Soaking (%): 98.5 Dry Density after Soaking (t/m³): 1 42 Density Ratio after Soaking (%): 98.0 Swell (%): 2.5 Moisture Content of Top 30mm (%): 35.2 Moisture Content of Remaining Depth (%): 28.8 Compaction Hammer Used: Standard AS 1289.5.1.1 Surcharge Mass (kg): 4.50

AS 1289.6.1.1

Period of Soaking (Days): Retained on 19 mm Sieve (%): CBR Moisture Content Method:

AS 1289.2.1.1 Sample Curing Time (h):

Plasticity Determination Method: Visual/Tactile

- AS 1289.2.1.1 -

In Situ (Field) Moisture Content (%): 24 1

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

California Bearing Ratio Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: -TRN: -

Report No: CBR:NEWC21S-01815



Accredited for compliance with ISO/IEC 17025 -Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers

JMB.

Approved Signatory: Chris Blackford (Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 25/03/2021

Sample Details

Sample ID: NEWC21S-01815

Sample Location: TP07 - 0.5 - 1.0m

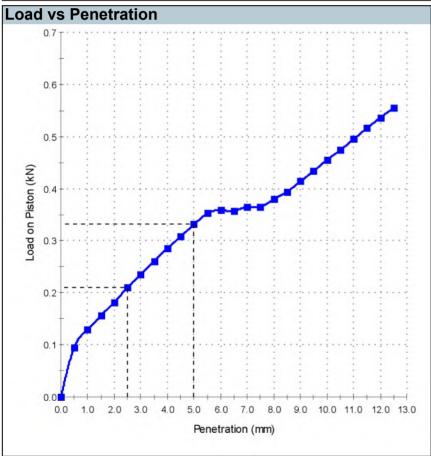
Client ID:

Date Sampled: 8/03/2021

Date Submitted: 9/03/2021 Date Tested: 18/03/2021 Project Location: Chisholm, NSW Sampling Method: Submitted by client Material: **Existing Ground**

Source: On-Site

Specification: No Specification



Test Results AS 1289.6.1.1 CBR at 5.0mm (%): 1.5 Dry Density before Soaking (t/m³): 1.45 Density Ratio before Soaking (%): 100.0 27.3 Moisture Content before Soaking (%): Moisture Ratio before Soaking (%): 98.5 Dry Density after Soaking (t/m³): 1 43 Density Ratio after Soaking (%): 98.5 Swell (%): 2.0 Moisture Content of Top 30mm (%): 32.3 Moisture Content of Remaining Depth (%): 28.5 Compaction Hammer Used: Standard AS 1289.5.1.1 Surcharge Mass (kg): 4.50 Period of Soaking (Days): Retained on 19 mm Sieve (%): CBR Moisture Content Method: AS 1289.2.1.1 Sample Curing Time (h): Plasticity Determination Method: Visual/Tactile - AS 1289.2.1.1 -In Situ (Field) Moisture Content (%): 33.0

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

California Bearing Ratio Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: CBR:NEWC21S-01817



Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.



Approved Signatory: Chris Blackford (Geotechnician) NATA Accredited Laboratory Number:431

NATA Accredited Laboratory Number Date of Issue: 25/03/2021

Sample Details

Sample ID: NEWC21S-01817

Sample Location: TP23 - 0.5 - 1.0m

Client ID:

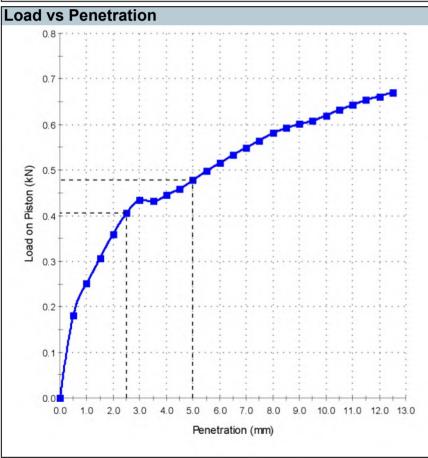
Date Sampled: 8/03/2021

Date Submitted: 9/03/2021
Date Tested: 18/03/2021
Project Location: Chisholm, NSW

Material: Existing Ground Source: On-Site

Sampling Method: Submitted by client

Specification: No Specification



Test Results AS 1289.6.1.1 CBR at 2.5mm (%): 3.0 Dry Density before Soaking (t/m3): 1.55 Density Ratio before Soaking (%): 100.0 Moisture Content before Soaking (%): 24.6 101.0 Moisture Ratio before Soaking (%): Dry Density after Soaking (t/m³): 1 53 Density Ratio after Soaking (%): 98.0 Swell (%): 2.0 Moisture Content of Top 30mm (%): 29.0 Moisture Content of Remaining Depth (%): 25.9 Compaction Hammer Used: Standard AS 1289.5.1.1 Surcharge Mass (kg): 4.50 Period of Soaking (Days): Retained on 19 mm Sieve (%): CBR Moisture Content Method: AS 1289.2.1.1 Sample Curing Time (h): Plasticity Determination Method: Visual/Tactile - AS 1289.2.1.1 -In Situ (Field) Moisture Content (%): 22 1

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

California Bearing Ratio Test Report

EP Risk Management Client:

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: -TRN: -

Report No: CBR:NEWC21S-01819



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Approved Signatory: Chris Blackford

(Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 25/03/2021

Sample Details

NEWC21S-01819 Sample ID:

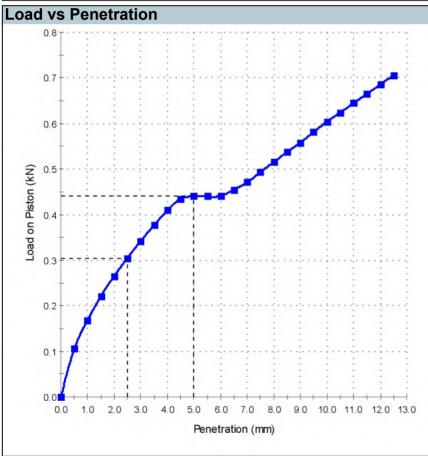
Sample Location: TP28 - 0.5 - 1.0m

Client ID:

Date Sampled: 8/03/2021

Date Submitted: 9/03/2021 Date Tested: 18/03/2021 Project Location: Chisholm, NSW Sampling Method: Submitted by client Material: **Existing Ground** Source: On-Site

Specification: No Specification



Test Results AS 1289.6.1.1 CBR at 2.5mm (%): 2.5 Dry Density before Soaking (t/m3): 1.62 Density Ratio before Soaking (%): 100.5 Moisture Content before Soaking (%): 22.6 97.5 Moisture Ratio before Soaking (%): Dry Density after Soaking (t/m³): 1.58 Density Ratio after Soaking (%): 97.5 Swell (%): 3.0 Moisture Content of Top 30mm (%): 29.4 Moisture Content of Remaining Depth (%): 23.6 Compaction Hammer Used: Standard AS 1289.5.1.1 Surcharge Mass (kg): 4.50 Period of Soaking (Days): Retained on 19 mm Sieve (%): CBR Moisture Content Method: AS 1289.2.1.1 Sample Curing Time (h): Plasticity Determination Method: Visual/Tactile - AS 1289.2.1.1 -In Situ (Field) Moisture Content (%): 24 9

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: NEWC21S-01813-1

Issue No: 1



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Jul.

Approved Signatory: Chris Blackford (Geotechnician) NATA Accredited Laboratory Number:431

Date of Issue: 25/03/2021

Sample Details

Sample ID / Client ID: NEWC21S-01813 / -

Date Sampled: 08/03/2021 Source: 08/03/2021

Material:Existing GroundSpecification:No SpecificationSampling Method:Submitted by clientProject Location:Chisholm, NSWSample Location:TP04 - 0.5 - 0.8m

Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	24.1	
Date Tested		12/03/2021	
Standard MDD (t/m³)	AS 1289.5.1.1	1.45	
Standard OMC (%)		27.5	
Retained Sieve (mm)		19	
Oversize Material (%)		1	
Curing Time (h)		95	
LL Method		Visual / Tactile Assessment	
Date Tested		16/03/2021	
CBR at 2.5mm (%)	AS 1289.6.1.1	1.5	_
Dry Density before Soaking (t/m³)		1.46	
Density Ratio before Soaking (%)		100.5	
Moisture Content before Soaking (%)		27.0	
Moisture Ratio before Soaking (%)		98.5	
Dry Density after Soaking (t/m³)		1.42	
Density Ratio after Soaking (%)		98.0	
Swell (%)		2.5	
Moisture Content of Top 30mm (%)		35.2	
Moisture Content of Remaining Depth (%)		28.8	
Compaction Hammer Used		Standard	
Surcharge Mass (kg)		4.50	
Period of Soaking (Days)		4	
Retained on 19 mm Sieve (%)		1	
CBR Moisture Content Method		AS 1289.2.1.1	
Sample Curing Time (h)		71	
Plasticity Method		Visual/Tactile Assessment	
Sample Moisture Content		AS 1289.2.1.1	
Date Tested		18/03/2021	

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA Project No.:

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: -TRN: -

Report No: NEWC21S-01814-1 Issue No: 1



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Limits



Approved Signatory: Chris Blackford (Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 25/03/2021

Sample Details

Sample ID / Client ID: NEWC21S-01814 / -

Date Sampled: 08/03/2021 Source: On-Site Material: **Existing Ground**

Specification: No Specification Sampling Method: Submitted by client **Project Location:** Chisholm, NSW Sample Location: TP04 - 0.5 - 0.8m

Particle Size Distribution

Method: AS 1289.3.6.1

Drying by: Oven Date Tested: 16/03/2021

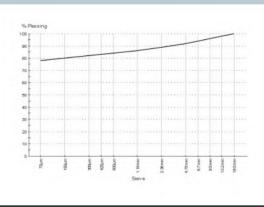
Sample Washed Note:

Sieve Size	% Passing
19.0mm	100
13.2mm	98
9.5mm	96
6.7mm	94
4.75mm	92
2.36mm	89
1.18mm	86
600µm	84
425µm	83
300µm	82
150µm	80
75µm	78

Other Test Results

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Air-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	18.5	
Mould Length (mm)		254	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	73	
Method		Four Point	
Plastic Limit (%)	AS 1289.3.2.1	21	
Plasticity Index (%)	AS 1289.3.3.1	52	
Date Tested		16/03/2021	
Emerson Class Number	AS 1289.3.8.1	2	
Soil Description	Clay, High plas	sticity, grey.	
Type of Water		Distilled	
Date Tested		17/03/2021	

Chart



Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: NEWC21S-01815-1

Issue No: 1



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Jul.

Approved Signatory: Chris Blackford (Geotechnician) NATA Accredited Laboratory Number:431

Date of Issue: 25/03/2021

Sample Details

Sample ID / Client ID: NEWC21S-01815 / -

Date Sampled: 08/03/2021 Source: 08/03/2021

Material:Existing GroundSpecification:No SpecificationSampling Method:Submitted by clientProject Location:Chisholm, NSWSample Location:TP07 - 0.5 - 1.0m

Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	33.0	
Date Tested		12/03/2021	
Standard MDD (t/m³)	AS 1289.5.1.1	1.45	
Standard OMC (%)		27.5	
Retained Sieve (mm)		19	
Oversize Material (%)		0	
Curing Time (h)		96	
LL Method		Visual / Tactile Assessment	
Date Tested		16/03/2021	
CBR at 5.0mm (%)	AS 1289.6.1.1	1.5	_
Dry Density before Soaking (t/m³)		1.45	
Density Ratio before Soaking (%)		100.0	
Moisture Content before Soaking (%)		27.3	
Moisture Ratio before Soaking (%)		98.5	
Dry Density after Soaking (t/m³)		1.43	
Density Ratio after Soaking (%)		98.5	
Swell (%)		2.0	
Moisture Content of Top 30mm (%)		32.3	
Moisture Content of Remaining Depth (%)		28.5	
Compaction Hammer Used		Standard	
Surcharge Mass (kg)		4.50	
Period of Soaking (Days)		4	
Retained on 19 mm Sieve (%)		0	
CBR Moisture Content Method		AS 1289.2.1.1	
Sample Curing Time (h)		73	
Plasticity Method		Visual/Tactile Assessment	
Sample Moisture Content		AS 1289.2.1.1	
Date Tested		18/03/2021	

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: NEWC21S-01816-1

Issue No: 1

Limits



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Jung.

Approved Signatory: Chris Blackford (Geotechnician) NATA Accredited Laboratory Number:431 Date of Issue: 25/03/2021

Sample Details

Sample ID / Client ID: NEWC21S-01816 / -

Date Sampled: 08/03/2021
Source: On-Site
Material: Existing Gro

Material:Existing GroundSpecification:No SpecificationSampling Method:Submitted by clientProject Location:Chisholm, NSWSample Location:TP07 - 0.5 - 1.0m

Particle Size Distribution

Method: AS 1289.3.6.1

Drying by: Oven
Date Tested: 16/03/2021

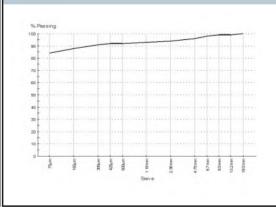
Note: Sample Washed

ı	Sieve Size	% Passing
ı	19.0mm	100
ı	13.2mm	99
ı	9.5mm	99
ı	6.7mm	98
ı	4.75mm	96
	2.36mm	94
	1.18mm	93
ı	600µm	92
1	425µm	92
ı	300µm	91
ı	150µm	88
ı	75µm	84

Other Test Results

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Air-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	17.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	69	
Method		Four Point	
Plastic Limit (%)	AS 1289.3.2.1	23	
Plasticity Index (%)	AS 1289.3.3.1	46	
Date Tested	•	16/03/2021	
Emerson Class Number	AS 1289.3.8.1	2	
Soil Description	Clay, High plas	ticity, grey.	
Type of Water		Distilled	
Date Tested	,	17/03/2021	

Chart



Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: NEWC21S-01817-1

Issue No: 1



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OhnB.

Approved Signatory: Chris Blackford (Geotechnician) NATA Accredited Laboratory Number:431 Date of Issue: 25/03/2021

Sample Details

Sample ID / Client ID: NEWC21S-01817 / -

Date Sampled: 08/03/2021 Source: 08/03/2021

Material:Existing GroundSpecification:No SpecificationSampling Method:Submitted by clientProject Location:Chisholm, NSWSample Location:TP23 - 0.5 - 1.0m

Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	22.1	
Date Tested		15/03/2021	
Standard MDD (t/m³)	AS 1289.5.1.1	1.56	
Standard OMC (%)		24.5	
Retained Sieve (mm)		19	
Oversize Material (%)		0	
Curing Time (h)		72	
LL Method		Visual / Tactile Assessment	
Date Tested		15/03/2021	
CBR at 2.5mm (%)	AS 1289.6.1.1	3.0	
Dry Density before Soaking (t/m³)		1.55	
Density Ratio before Soaking (%)		100.0	
Moisture Content before Soaking (%)		24.6	
Moisture Ratio before Soaking (%)		101.0	
Dry Density after Soaking (t/m³)		1.53	
Density Ratio after Soaking (%)		98.0	
Swell (%)		2.0	
Moisture Content of Top 30mm (%)		29.0	
Moisture Content of Remaining Depth (%)		25.9	
Compaction Hammer Used		Standard	
Surcharge Mass (kg)		4.50	
Period of Soaking (Days)		4	
Retained on 19 mm Sieve (%)		0	
CBR Moisture Content Method		AS 1289.2.1.1	
Sample Curing Time (h)		72	
Plasticity Method		Visual/Tactile Assessment	
Sample Moisture Content		AS 1289.2.1.1	
Date Tested		18/03/2021	

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: NEWC21S-01819-1

Issue No: 1



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A Mariel

Approved Signatory: Joe Stallard (Laboratory Manager) NATA Accredited Laboratory Number:431 Date of Issue: 26/07/2021

Sample Details

Sample ID / Client ID: NEWC21S-01819 / -

Date Sampled: 08/03/2021 Source: 08/03/2021

Material:Existing GroundSpecification:No SpecificationSampling Method:Submitted by clientProject Location:Chisholm, NSWSample Location:TP28 - 0.5 - 1.0m

Test Results

Description	Method	Result	Limits
Standard MDD (t/m³)	AS 1289.5.1.1	1.61	
Standard OMC (%)		23.0	
Retained Sieve (mm)		19	
Oversize Material (%)		1	
Curing Time (h)		72	
LL Method		Visual / Tactile Assessment	
Date Tested		15/03/2021	

Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Material Test Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

Project No.: TESTNEWC00329AA

Project Name: EP1995 - Chisholm CSR Due Diligence **Lot No.:** - **TRN:** -

Report No: NEWC21S-01820-1 Issue No: 1



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Limits



Approved Signatory: Chris Blackford (Geotechnician) NATA Accredited Laboratory Number:431 Date of Issue: 25/03/2021

Sample Details

Sample ID / Client ID: NEWC21S-01820 / -

Date Sampled: 08/03/2021 Source: On-Site

Material:Existing GroundSpecification:No SpecificationSampling Method:Submitted by clientProject Location:Chisholm, NSWSample Location:TP28 - 0.5 - 1.0m

Particle Size Distribution

Method: AS 1289.3.6.1

Drying by: Oven
Date Tested: 17/03/2021

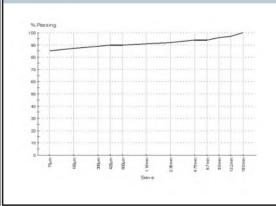
Note: Sample Washed

Sieve Size	% Passing
19.0mm	100
13.2mm	97
9.5mm	96
6.7mm	94
4.75mm	94
2.36mm	92
1.18mm	91
600µm	90
425µm	90
300µm	89
150µm	87
75um	85

Other Test Results

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Air-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	16.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.1	69	
Method		Four Point	
Plastic Limit (%)	AS 1289.3.2.1	18	
Plasticity Index (%)	AS 1289.3.3.1	51	
Date Tested		17/03/2021	
Emerson Class Number	AS 1289.3.8.1	1	
Soil Description	Clay, High plasticty, p	ale brown.	
Type of Water		Distilled	
Date Tested		17/03/2021	

Chart



Comments



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Shrink Swell Index Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: TRN: -

Report No: SSI:NEWC21S-01814



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4. Gudenol

Approved Signatory: Greg Eveleigh

(Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 23/03/2021

Sample Details

Sample ID: NEWC21S-01814 **Date Sampled:** 8/03/2021 **Date Submitted:** 9/03/2021 **Date Tested:** 17/03/2021 **Project Location:** Chisholm, NSW

Borehole Number: Borehole Depth (m): -

Sample Location:

Sampling Method: Submitted by client Material: **Existing Ground** Source: On-Site

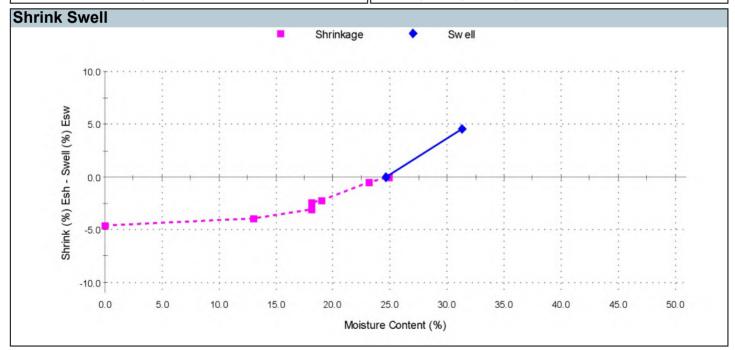
AS 1289.7.1.1 **Swell Test**

TP04 - 0.5 - 0.8m

Swell on Saturation (%): 4.5 Moisture Content before (%): 24.6 Moisture Content after (%): Est. Unc. Comp. Strength before (kPa): +600 Est. Unc. Comp. Strength after (kPa):

Shrink Test AS 1289.7.1.1

Shrink on drying (%): Shrinkage Moisture Content (%): 24.9 Est. inert material (%): Crumbling during shrinkage: Nil Cracking during shrinkage: Slight



Shrink Swell Index - Iss (%): 3.8

Comments

Sample tested and reported as received from client. Sample was remoulded.

Clay, high plasticity, brown.



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Shrink Swell Index Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: TRN: -

Report No: SSI:NEWC21S-01816



Accredited for compliance with ISO/IEC 17025 -Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers

4. Gudenol

Approved Signatory: Greg Eveleigh

(Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 23/03/2021

Sample Details

Sample ID: NEWC21S-01816 **Date Sampled:** 8/03/2021 **Date Submitted:** 9/03/2021 **Date Tested:** 19/03/2021 **Project Location:** Chisholm, NSW Sample Location: TP07 - 0.5 - 1.0m

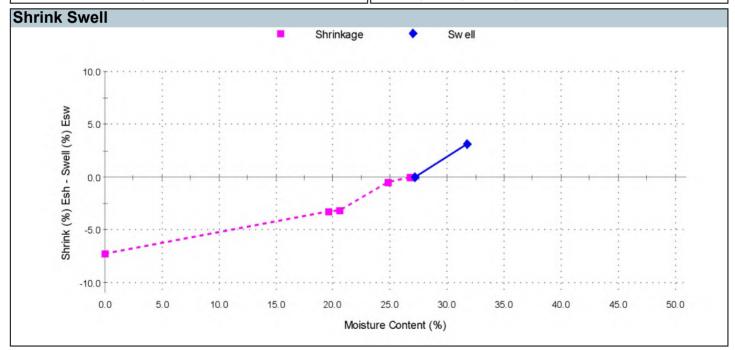
Borehole Number: Borehole Depth (m): -- Sampling Method: Submitted by client Material: **Existing Ground** Source: On-Site

AS 1289.7.1.1 **Swell Test**

Swell on Saturation (%): 3.1 Moisture Content before (%): 27 2 Moisture Content after (%): Est. Unc. Comp. Strength before (kPa): 180 Est. Unc. Comp. Strength after (kPa):

Shrink Test AS 1289.7.1.1

Shrink on drying (%): 7.3 Shrinkage Moisture Content (%): 26.7 Est. inert material (%): Crumbling during shrinkage: Nil Cracking during shrinkage: Slight



Shrink Swell Index - Iss (%): 4.9

Comments

Sample tested and reported as received from client.

Sample was remoulded.

Clay, medium to high plasticity, brown.



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

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Shrink Swell Index Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: TRN: -

Report No: SSI:NEWC21S-01818 Issue No: 1



Sampling Method:

Material:

Source:

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4. Gudenol

Submitted by client

Existing Ground

On-Site

Approved Signatory: Greg Eveleigh

(Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 23/03/2021

Sample Details

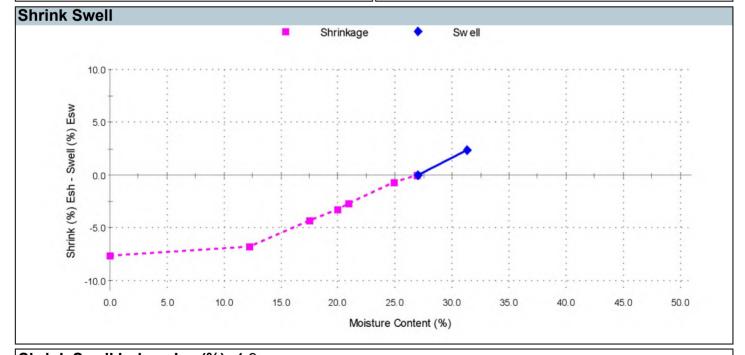
Sample ID: NEWC21S-01818 **Date Sampled:** 8/03/2021 **Date Submitted:** 9/03/2021 **Date Tested:** 17/03/2021 **Project Location:** Chisholm, NSW Sample Location: TP23 - 0.5 - 1.0m

Borehole Number: Borehole Depth (m): -

Shrink Test AS 1289.7.1.1

Shrink on drying (%): 7.7 Shrinkage Moisture Content (%): 26.9 Est. inert material (%): Crumbling during shrinkage: Nil Cracking during shrinkage: Nil

AS 1289.7.1.1 **Swell Test** Swell on Saturation (%): 2.4 Moisture Content before (%): 27.0 Moisture Content after (%): Est. Unc. Comp. Strength before (kPa): 150 Est. Unc. Comp. Strength after (kPa):



Shrink Swell Index - Iss (%): 4.9

Comments

Sample tested and reported as received from client.

Sample was remoulded.

Clay, high plasticitymottled brown/orange.



Coffey Testing Pty Ltd ABN 92 114 364 046 16 Callistemon Close Warabrook NSW 2304

Phone: +61 2 4016 2300

Shrink Swell Index Report

Client: EP Risk Management

PO Box 57

Lochinvar NSW 2321

Principal:

TESTNEWC00329AA **Project No.:**

Project Name: EP1995 - Chisholm CSR Due Diligence Lot No.: TRN: -

Report No: SSI:NEWC21S-01820 Issue No: 1



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4. Gudenol

Submitted by client

Approved Signatory: Greg Eveleigh

(Geotechnician)
NATA Accredited Laboratory Number:431

Date of Issue: 23/03/2021

Sample Details

Sample ID: NEWC21S-01820 **Date Sampled:** 8/03/2021 **Date Submitted:** 9/03/2021 **Date Tested:** 16/03/2021 **Project Location:** Chisholm, NSW Sample Location: TP28 - 0.5 - 1.0m

Borehole Number: Borehole Depth (m): - Material: **Existing Ground** Source: On-Site

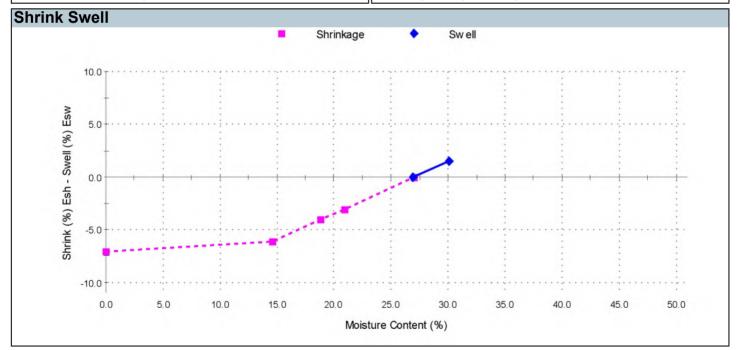
Sampling Method:

AS 1289.7.1.1 **Swell Test**

Swell on Saturation (%): 1.5 Moisture Content before (%): 26.9 Moisture Content after (%): Est. Unc. Comp. Strength before (kPa): 120 Est. Unc. Comp. Strength after (kPa):

Shrink Test AS 1289.7.1.1

Shrink on drying (%): 7.1 Shrinkage Moisture Content (%): 27.0 Est. inert material (%): Crumbling during shrinkage: Nil Cracking during shrinkage: Nil



Shrink Swell Index - Iss (%): 4.4

Comments

Sample was remoulded.

Clay, medium to high plasticity, pale brown.



Appendix D CSIRO INFORMATION SHEET BTF 18

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Foundation Maintenance and Footing Performance: A Homeowner's Guide



BTF 18 replaces Information Sheet 10/91

Buildings can and often do move. This movement can be up, down, lateral or rotational. The fundamental cause of movement in buildings can usually be related to one or more problems in the foundation soil. It is important for the homeowner to identify the soil type in order to ascertain the measures that should be put in place in order to ensure that problems in the foundation soil can be prevented, thus protecting against building movement.

This Building Technology File is designed to identify causes of soil-related building movement, and to suggest methods of prevention of resultant cracking in buildings.

Soil Types

The types of soils usually present under the topsoil in land zoned for residential buildings can be split into two approximate groups — granular and clay. Quite often, foundation soil is a mixture of both types. The general problems associated with soils having granular content are usually caused by erosion. Clay soils are subject to saturation and swell/shrink problems.

Classifications for a given area can generally be obtained by application to the local authority, but these are sometimes unreliable and if there is doubt, a geotechnical report should be commissioned. As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. The table below is Table 2.1 from AS 2870, the Residential Slab and Footing Code.

Causes of Movement

Settlement due to construction

There are two types of settlement that occur as a result of construction:

- Immediate settlement occurs when a building is first placed on its foundation soil, as a result of compaction of the soil under the weight of the structure. The cohesive quality of clay soil mitigates against this, but granular (particularly sandy) soil is susceptible.
- Consolidation settlement is a feature of clay soil and may take
 place because of the expulsion of moisture from the soil or because
 of the soil's lack of resistance to local compressive or shear stresses.
 This will usually take place during the first few months after
 construction, but has been known to take many years in
 exceptional cases.

These problems are the province of the builder and should be taken into consideration as part of the preparation of the site for construction. Building Technology File 19 (BTF 19) deals with these problems.

Erosion

All soils are prone to erosion, but sandy soil is particularly susceptible to being washed away. Even clay with a sand component of say 10% or more can suffer from erosion.

Saturation

This is particularly a problem in clay soils. Saturation creates a bog-like suspension of the soil that causes it to lose virtually all of its bearing capacity. To a lesser degree, sand is affected by saturation because saturated sand may undergo a reduction in volume – particularly imported sand fill for bedding and blinding layers. However, this usually occurs as immediate settlement and should normally be the province of the builder.

Seasonal swelling and shrinkage of soil

All clays react to the presence of water by slowly absorbing it, making the soil increase in volume (see table below). The degree of increase varies considerably between different clays, as does the degree of decrease during the subsequent drying out caused by fair weather periods. Because of the low absorption and expulsion rate, this phenomenon will not usually be noticeable unless there are prolonged rainy or dry periods, usually of weeks or months, depending on the land and soil characteristics.

The swelling of soil creates an upward force on the footings of the building, and shrinkage creates subsidence that takes away the support needed by the footing to retain equilibrium.

Shear failure

This phenomenon occurs when the foundation soil does not have sufficient strength to support the weight of the footing. There are two major post-construction causes:

- Significant load increase.
- Reduction of lateral support of the soil under the footing due to erosion or excavation.
- In clay soil, shear failure can be caused by saturation of the soil adjacent to or under the footing.

GENERAL DEFINITIONS OF SITE CLASSES								
Class	Foundation							
Α	Most sand and rock sites with little or no ground movement from moisture changes							
S	Slightly reactive clay sites with only slight ground movement from moisture changes							
M	Moderately reactive clay or silt sites, which can experience moderate ground movement from moisture changes							
Н	Highly reactive clay sites, which can experience high ground movement from moisture changes							
E	Extremely reactive sites, which can experience extreme ground movement from moisture changes							
A to P	Filled sites							
P	Sites which include soft soils, such as soft clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soils subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise							

Tree root growth

Trees and shrubs that are allowed to grow in the vicinity of footings can cause foundation soil movement in two ways:

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.
- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

Unevenness of Movement

The types of ground movement described above usually occur uneverly throughout the building's foundation soil. Settlement due to construction tends to be uneven because of:

- Differing compaction of foundation soil prior to construction.
- Differing moisture content of foundation soil prior to construction.

Movement due to non-construction causes is usually more uneven still. Erosion can undermine a footing that traverses the flow or can create the conditions for shear failure by eroding soil adjacent to a footing that runs in the same direction as the flow.

Saturation of clay foundation soil may occur where subfloor walls create a dam that makes water pond. It can also occur wherever there is a source of water near footings in clay soil. This leads to a severe reduction in the strength of the soil which may create local shear failure.

Seasonal swelling and shrinkage of clay soil affects the perimeter of the building first, then gradually spreads to the interior. The swelling process will usually begin at the uphill extreme of the building, or on the weather side where the land is flat. Swelling gradually reaches the interior soil as absorption continues. Shrinkage usually begins where the sun's heat is greatest.

Effects of Uneven Soil Movement on Structures

Erosion and saturation

Erosion removes the support from under footings, tending to create subsidence of the part of the structure under which it occurs. Brickwork walls will resist the stress created by this removal of support by bridging the gap or cantilevering until the bricks or the mortar bedding fail. Older masonry has little resistance. Evidence of failure varies according to circumstances and symptoms may include:

- Step cracking in the mortar beds in the body of the wall or above/below openings such as doors or windows.
- Vertical cracking in the bricks (usually but not necessarily in line with the vertical beds or perpends).

Isolated piers affected by erosion or saturation of foundations will eventually lose contact with the bearers they support and may tilt or fall over. The floors that have lost this support will become bouncy, sometimes rattling ornaments etc.

Seasonal swelling/shrinkage in clay

Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the external footings are pushed higher than the internal ones.

The first noticeable symptom may be that the floor appears slightly dished. This is often accompanied by some doors binding on the floor or the door head, together with some cracking of cornice mitres. In buildings with timber flooring supported by bearers and joists, the floor can be bouncy. Externally there may be visible dishing of the hip or ridge lines.

As the moisture absorption process completes its journey to the innermost areas of the building, the internal footings will rise. If the spread of moisture is roughly even, it may be that the symptoms will temporarily disappear, but it is more likely that swelling will be uneven, creating a difference rather than a disappearance in symptoms. In buildings with timber flooring supported by bearers and joists, the isolated piers will rise more easily than the strip footings or piers under walls, creating noticeable doming of flooring.



As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the external footings. The doming is accentuated and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

Doming and dishing are also affected by weather in other ways. In areas where warm, wet summers and cooler dry winters prevail, water migration tends to be toward the interior and doming will be accentuated, whereas where summers are dry and winters are cold and wet, migration tends to be toward the exterior and the underlying propensity is toward dishing.

Movement caused by tree roots

In general, growing roots will exert an upward pressure on footings, whereas soil subject to drying because of tree or shrub roots will tend to remove support from under footings by inducing shrinkage.

Complications caused by the structure itself

Most forces that the soil causes to be exerted on structures are vertical – i.e. either up or down. However, because these forces are seldom spread evenly around the footings, and because the building resists uneven movement because of its rigidity, forces are exerted from one part of the building to another. The net result of all these forces is usually rotational. This resultant force often complicates the diagnosis because the visible symptoms do not simply reflect the original cause. A common symptom is binding of doors on the vertical member of the frame.

Effects on full masonry structures

Brickwork will resist cracking where it can. It will attempt to span areas that lose support because of subsided foundations or raised points. It is therefore usual to see cracking at weak points, such as openings for windows or doors.

In the event of construction settlement, cracking will usually remain unchanged after the process of settlement has ceased.

With local shear or erosion, cracking will usually continue to develop until the original cause has been remedied, or until the subsidence has completely neutralised the affected portion of footing and the structure has stabilised on other footings that remain effective.

In the case of swell/shrink effects, the brickwork will in some cases return to its original position after completion of a cycle, however it is more likely that the rotational effect will not be exactly reversed, and it is also usual that brickwork will settle in its new position and will resist the forces trying to return it to its original position. This means that in a case where swelling takes place after construction and cracking occurs, the cracking is likely to at least partly remain after the shrink segment of the cycle is complete. Thus, each time the cycle is repeated, the likelihood is that the cracking will become wider until the sections of brickwork become virtually independent.

With repeated cycles, once the cracking is established, if there is no other complication, it is normal for the incidence of cracking to stabilise, as the building has the articulation it needs to cope with the problem. This is by no means always the case, however, and monitoring of cracks in walls and floors should always be treated seriously.

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

The normal structural arrangement is that the inner leaf of brickwork in the external walls and at least some of the internal walls (depending on the roof type) comprise the load-bearing structure on which any upper floors, ceilings and the roof are supported. In these cases, it is internally visible cracking that should be the main focus of attention, however there are a few examples of dwellings whose external leaf of masonry plays some supporting role, so this should be checked if there is any doubt. In any case, externally visible cracking is important as a guide to stresses on the structure generally, and it should also be remembered that the external walls must be capable of supporting themselves.

Effects on framed structures

Timber or steel framed buildings are less likely to exhibit cracking due to swell/shrink than masonry buildings because of their flexibility. Also, the doming/dishing effects tend to be lower because of the lighter weight of walls. The main risks to framed buildings are encountered because of the isolated pier footings used under walls. Where erosion or saturation cause a footing to fall away, this can double the span which a wall must bridge. This additional stress can create cracking in wall linings, particularly where there is a weak point in the structure caused by a door or window opening. It is, however, unlikely that framed structures will be so stressed as to suffer serious damage without first exhibiting some or all of the above symptoms for a considerable period. The same warning period should apply in the case of upheaval. It should be noted, however, that where framed buildings are supported by strip footings there is only one leaf of brickwork and therefore the externally visible walls are the supporting structure for the building. In this case, the subfloor masonry walls can be expected to behave as full brickwork walls.

Effects on brick veneer structures

Because the load-bearing structure of a brick veneer building is the frame that makes up the interior leaf of the external walls plus perhaps the internal walls, depending on the type of roof, the building can be expected to behave as a framed structure, except that the external masonry will behave in a similar way to the external leaf of a full masonry structure.

Water Service and Drainage

Where a water service pipe, a sewer or stormwater drainage pipe is in the vicinity of a building, a water leak can cause erosion, swelling or saturation of susceptible soil. Even a minuscule leak can be enough to saturate a clay foundation. A leaking tap near a building can have the same effect. In addition, trenches containing pipes can become watercourses even though backfilled, particularly where broken rubble is used as fill. Water that runs along these trenches can be responsible for serious erosion, interstrata seepage into subfloor areas and saturation.

Pipe leakage and trench water flows also encourage tree and shrub roots to the source of water, complicating and exacerbating the problem.

Poor roof plumbing can result in large volumes of rainwater being concentrated in a small area of soil:

 Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.

- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

Seriousness of Cracking

In general, most cracking found in masonry walls is a cosmetic nuisance only and can be kept in repair or even ignored. The table below is a reproduction of Table $\rm C1$ of AS 2870.

AS 2870 also publishes figures relating to cracking in concrete floors, however because wall cracking will usually reach the critical point significantly earlier than cracking in slabs, this table is not reproduced here.

Prevention/Cure

Plumbing

Where building movement is caused by water service, roof plumbing, sewer or stormwater failure, the remedy is to repair the problem. It is prudent, however, to consider also rerouting pipes away from the building where possible, and relocating taps to positions where any leakage will not direct water to the building vicinity. Even where gully traps are present, there is sometimes sufficient spill to create erosion or saturation, particularly in modern installations using smaller diameter PVC fixtures. Indeed, some gully traps are not situated directly under the taps that are installed to charge them. with the result that water from the tap may enter the backfilled trench that houses the sewer piping. If the trench has been poorly backfilled, the water will either pond or flow along the bottom of the trench. As these trenches usually run alongside the footings and can be at a similar depth, it is not hard to see how any water that is thus directed into a trench can easily affect the foundation's ability to support footings or even gain entry to the subfloor area.

Ground drainage

In all soils there is the capacity for water to travel on the surface and below it. Surface water flows can be established by inspection during and after heavy or prolonged rain. If necessary, a grated drain system connected to the stormwater collection system is usually an easy solution.

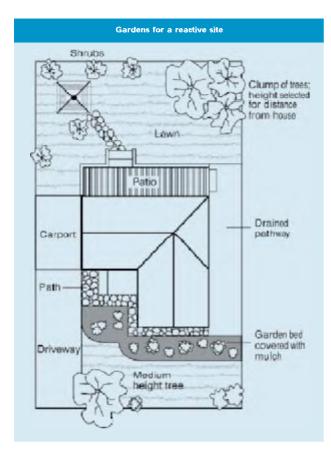
It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject is referred to in BTF 19 and may properly be regarded as an area for an expert consultant.

Protection of the building perimeter

It is essential to remember that the soil that affects footings extends well beyond the actual building line. Watering of garden plants, shrubs and trees causes some of the most serious water problems.

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving

Description of typical damage and required repair	Approximate crack width limit (see Note 3)	Damage
Hairline cracks	<0.1 mm	0
Fine cracks which do not need repair	<1 mm	1
Cracks noticeable but easily filled. Doors and windows stick slightly	<5 mm	2
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired	5–15 mm (or a number of cracks 3 mm or more in one group)	3
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted	15–25 mm but also depend on number of cracks	4



should extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

It is prudent to relocate drainage pipes away from this paving, if possible, to avoid complications from future leakage. If this is not practical, earthenware pipes should be replaced by PVC and backfilling should be of the same soil type as the surrounding soil and compacted to the same density.

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill from it (see BTF 19).

It may be desirable to install a grated drain at the outside edge of the paving on the uphill side of the building. If subsoil drainage is needed this can be installed under the surface drain.

Condensation

In buildings with a subfloor void such as where bearers and joists support flooring, insufficient ventilation creates ideal conditions for condensation, particularly where there is little clearance between the floor and the ground. Condensation adds to the moisture already present in the subfloor and significantly slows the process of drying out. Installation of an adequate subfloor ventilation system, either natural or mechanical, is desirable.

Warning: Although this Building Technology File deals with cracking in buildings, it should be said that subfloor moisture can result in the development of other problems, notably:

- Water that is transmitted into masonry, metal or timber building elements causes damage and/or decay to those elements.
- High subfloor humidity and moisture content create an ideal environment for various pests, including termites and spiders.
- Where high moisture levels are transmitted to the flooring and walls, an increase in the dust mite count can ensue within the living areas. Dust mites, as well as dampness in general, can be a health hazard to inhabitants, particularly those who are abnormally susceptible to respiratory ailments.

The garden

The ideal vegetation layout is to have lawn or plants that require only light watering immediately adjacent to the drainage or paving edge, then more demanding plants, shrubs and trees spread out in that order.

Overwatering due to misuse of automatic watering systems is a common cause of saturation and water migration under footings. If it is necessary to use these systems, it is important to remove garden beds to a completely safe distance from buildings.

Existing trees

Where a tree is causing a problem of soil drying or there is the existence or threat of upheaval of footings, if the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. If it is not possible to remove the relevant roots without damage to the tree, an application to remove the tree should be made to the local authority. A prudent plan is to transplant likely offenders before they become a problem.

Information on trees, plants and shrubs

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information. For information on plant roots and drains, see Building Technology File 17.

Excavation

Excavation around footings must be properly engineered. Soil supporting footings can only be safely excavated at an angle that allows the soil under the footing to remain stable. This angle is called the angle of repose (or friction) and varies significantly between soil types and conditions. Removal of soil within the angle of repose will cause subsidence.

Remediation

Where erosion has occurred that has washed away soil adjacent to footings, soil of the same classification should be introduced and compacted to the same density. Where footings have been undermined, augmentation or other specialist work may be required. Remediation of footings and foundations is generally the realm of a specialist consultant.

Where isolated footings rise and fall because of swell/shrink effect, the homeowner may be tempted to alleviate floor bounce by filling the gap that has appeared between the bearer and the pier with blocking. The danger here is that when the next swell segment of the cycle occurs, the extra blocking will push the floor up into an accentuated dome and may also cause local shear failure in the soil. If it is necessary to use blocking, it should be by a pair of fine wedges and monitoring should be carried out fortnightly.

This BTF was prepared by John Lewer FAIB, MIAMA, Partner, Construction Diagnosis.

The Information in this and other issues in the series was derived from various sources and was believed to be correct when published.

The Information Is advisory. It is provided in good faith and not claimed to be an exhaustive treatment of the relevant subject.

Further professional advice needs to be obtained before taking any action based on the information provided.

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Appendix E SUMMARY OF SUBSURFACE CONDITIONS

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Summary of subsurface conditions						
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile		
TP01	0.21	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP02	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)		
TP03	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP04	0.2	0.8	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY) / XW SANDSTONE		
TP05	0.4	N/A	Yes (0.4 m)	FILL (Silty clayey SAND) / Residual (Sandy CLAY)		
TP06	0.4	N/A	Yes (0.4 m)	FILL (Silty clayey SAND) / Residual (Sandy CLAY)		
TP07	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)		
TP08	0.2	N/A	Yes (0.2 m)	FILL (Clayey SAND) / Residual (Sandy CLAY)		
TP09	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP10	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP11	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP12	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP13	N/A	0.4	No	Residual (Clayey SAND) / XW SANDSTONE		
TP14	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)		
TP15	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)		
TP16	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP17	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP18	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP19	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP20	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP21	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP22	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP23	0.2	1	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY) / XW SANDSTONE		
TP24	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP25	0.2	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP26	0.3	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP27	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP28	0.3	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP29	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP30	0.4	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP31	1	N/A	Yes (1.5 m)	FILL (Sandy gravelly CLAY / Residual (Sandy CLAY)		
TP32	1.2	N/A	Yes (1.2 m)	FILL (Sandy gravelly CLAY / Residual (Sandy CLAY)		

-

¹ Bold indicates FILL depth.

Summary of subsurface conditions						
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile		
TP33	1.5	N/A	No	FILL (Sandy gravelly CLAY / Residual (Sandy CLAY)		
TP34	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP35	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP36	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP37	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP38	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)		
TP39	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)		
TP40	0.2	N/A	No	FILL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)		
TP41	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP42	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP43	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)		
TP44	0.1	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)		
TP45	0.1	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)		
TP46	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)		
TP47	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)		
TP48	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP49	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP50	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP51	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP52	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP53	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP54	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP55	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP56	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP57	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
TP58	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)		
BH59	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH60	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH61	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		

Summary of subsurface conditions						
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile		
BH62	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH63	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH64	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH65	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH66	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH67	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH68	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH69	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH70	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH71	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH72	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH73	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH74	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH75	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH76	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH77	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
BH78	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
BH79	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH80	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH81	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH82	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
BH83	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP84	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP85	0.4	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP86	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP87	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP88	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP89	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP90	0.3	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP91	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP92	0.6	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP93	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP94	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP95	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		

Summary of subsurface conditions						
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile		
TP96	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP97	0.8	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP98	0.2	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP99	0.3	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP100	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP101	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP102	0.8	N/A	Yes (0.4 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP103	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP104	N/A	0.5	No	Residual (Gravelly SAND) / XW SANDSTONE		
TP105	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP106	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP107	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP108	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP109	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP110	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP111	0.2	0.2	Yes (0.2)	FILL (Silty SAND with gravel) / XW SANDSTONE		
TP112	0.4	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP113	0.4	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP114	0.4	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP115	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP116	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP117	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP118	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP119	0.1	N/A	No	FILL (sandy CLAY) / Residual (Sandy CLAY)		
TP120	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP121	0.1	N/A	No	FILL (sandy CLAY) / Residual (Sandy CLAY)		
TP122	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP123	0.8	0	No	FILL (Silty SAND with gravel) / XW SHALE		
TP124	0.8	0	No	FILL (Silty SAND with gravel) / XW SHALE		
TP125	0.5	0.5	No	FILL (Silty SAND with gravel) / XW SHALE		
TP126	0.1	0.4	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY) / XW SHALE		
TP127	0.5	0.5	No	FILL (Silty SAND with gravel) / XW SHALE		
TP128	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP129	0.2	0.2	Yes (0.2)	FILL (Silty SAND with gravel) / XW SANDSTONE		

Summary of subsurface conditions						
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile		
TP130	0.3	N/A	Yes (0.3)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP131	0.3	N/A	Yes (0.3)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)		
TP132	3	0	No	FILL (Sandy gravelly CLAY) / XW SHALE		
TP133	3	0	No	FILL (Sandy gravelly CLAY) / XW SHALE		
TP134	3	0	No	FILL (Sandy gravelly CLAY) / XW SHALE		
TP135	2	0	No	FILL (Sandy gravelly CLAY) / XW SHALE		
TP136	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP137	1.8	N/A	Yes (0.1 m)	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)		
TP138	0.1	0.1	Yes (0.1 m)	FILL (Silty SAND with gravel) / XW SHALE		
TP139	3	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)		
TP140	0.2	0.5	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY) / XW SANDSTONE		
TP141	0.2	0.2	Yes (0.2 m)	FILL (Silty SAND with gravel) / XW SANDSTONE		
TP142	0.2	0.2	Yes (0.2 m)	FILL (Silty SAND with gravel) / XW SANDSTONE		
TP143	0.1	0.5	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY) / XW SHALE		
TP144	0.1	0.1	Yes (0.1 m)	FILL (Silty SAND with gravel) / XW SHALE		
TP145	1.5	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)		
TP146	0.1	N/A	Yes (0.1)	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)		
TP147	0.1	0.5	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY) / XW SHALE		
TP148	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)		
TP149	1.5	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)		
TP150	1.5	N/A	Yes (1.5 m)	FILL (Sandy CLAY with gravel) / Residual (Sandy CLAY)		
TP151	0.1	0.6	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY) / XW SHALE		
TP152	0.8	0	No	FILL (Silty SAND with gravel) / XW SHALE		
TP153	0.3	N/A	No	FILL (Gravelly sandy SILT) / Residual (Sandy CLAY)		
TP154	0.2	N/A	No	FILL (Sandy SILT) / Residual (Sandy CLAY)		
TP155	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)		
TP156	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)		
TP157	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP158	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)		
TP159	0.5	N/A	No	FILL (Silty SAND) / Residual (Sandy CLAY)		
TP160	0.2	N/A	No	FILL (Sandy SILT) / Residual (Sandy CLAY)		
TP161	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)		

Summa	Summary of subsurface conditions						
Test Pit ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile			
TP162	1	N/A	Yes (1.0 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)			
TP163	0.4	N/A	Yes (0.4 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)			
TP164	0.2	1	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY) / Residual (Sandy gravelly CLAY) / XW SANDSTONE			
TP165	1	1	Yes (1.0 m)	FILL (Sandy gravelly SILT) / XW SHALE			
TP166	0.5	N/A	Yes (0.5 m)	FILL (Sandy gravelly SILT) / Residual (Sandy CLAY)			
TP167	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE			
TP168	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE			
TP169	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE			
TP170	3	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)			
TP171	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE			
TP172	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE			



Appendix F SUMMARY OF STOCKPILED MATERIAL

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Summ	Summary of Stockpiled Material								
Test Pit ID	Maximum Depth of Stockpile (m)	Test Pit and Borehole IDs	Anthropogenic material present?	Approximate Stockpile Volume (m³)	Approximate Brick and tile Volume (m³)	Description of Soil encountered			
SP01	1.5	TP149	No	480	0	FILL (Sandy gravelly CLAY)			
SP02	0.8	TP123	No	330	0	FILL (Silty SAND with gravel)			
SP03	0.8	TP124	No	105	0	FILL (Silty SAND with gravel)			
SP04	0.8	TP152	No	72	0	FILL (Silty SAND with gravel)			
SP05	3.0	TP33, TP132, TP133	No	960	0	FILL (Sandy gravelly CLAY)			
SP06	3.0	TP134, TP135	No	1870	0	FILL (Sandy gravelly CLAY)			
SP07	3.0	TP139, TP145, TP170	No	2500	0	FILL (Sandy gravelly CLAY)			
SP08	1.5	TP31, TP32, TP150	Yes (1.5 m)	540	540	FILL (Silty SAND with gravel)			
SP09	1.8	TP30, TP102, TP137	Yes (0.4 m)	990	220	FILL (Silty SAND with gravel)			
SP10	0.8	TP97	No	200	0	FILL (Silty SAND with gravel)			
SP11	0.3	TP26	No	95	0	FILL (Silty SAND with gravel)			
SP12	0.4	TP10, TP18	Yes (0.2 m)	12	5	FILL (Silty SAND with gravel)			
SP13	0.3	TP22	Yes (0.3 m)	5	5	FILL (Silty SAND with gravel)			
SP14	0.2	TP25	No	30	0	FILL (Silty SAND with gravel)			
SP15	0.3	TP27	Yes (0.3 m)	10	10	FILL (Silty SAND with gravel)			
SP16	0.5	TP92	No	14	0	FILL (Silty SAND with gravel)			
SP17	0.4	TP112, TP113, TP114	Yes (0.1 m)	250	65	FILL (Silty SAND with gravel)			
SP18	0.1	TP117	Yes (0.1 m)	5	5	FILL (Silty SAND)			

