Douglas Partners
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Report on
Geotechnical Investigation

Sydney Football Stadium Redevelopment
Moore Park, NSW

Prepared for
Lendlease Building Pty Ltd

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Report on Geotechnical Investigation
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Moore Park, NSW

1. Introduction

This report presents the results of a geotechnical investigation undertaken for the proposed Sydney Football Stadium Redevelopment (SFSR) project off Driver Avenue, Moore Park, NSW. The work was commissioned by Lendlease Building Pty Ltd.

This report supports a State Significant Development (SSD) Development Application (DA) for the redevelopment of the Sydney Football Stadium, which is submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The redevelopment is being conducted in stages comprising the following planning applications:

- **Stage 1** – Concept Proposal for the stadium envelope and supporting retail and functional uses as well as development consent for the carrying out of early works, including demolition of the existing facility and associated structures.
- **Stage 2** – detailed design, construction and operation of the stadium and supporting business, retail and functional uses.

Development consent was granted for the Concept Proposal and detailed approval to carry out early works and demolition (SSD 18_9249) by the Minister for Planning on 6 December 2018.

This report relates to the Stage 2 application and considers the detailed design, construction and operation of the new Sydney Football Stadium pursuant to the approved Concept Proposal.

Infrastructure NSW is the proponent of the Stage 2 DA.

The project involves the redevelopment of the Sydney Football Stadium and surrounding precinct which will include the demolition of the existing stadium followed by the construction of a new state-of-the-art facility. Demolition of the adjacent Sheridan, Waratahs, Roosters buildings and the administration building of Cricket NSW will also be undertaken.

The geotechnical investigation for the SFSR has included the drilling of 16 cored boreholes, six augered boreholes, installation of nine groundwater monitoring wells, laboratory analysis and engineering interpretation. Details of the field work and comments relevant to design and construction are given in this report. The field work was undertaken over two separate periods in 2018 and 2019.

Intrusive investigation for contamination assessment purposes was undertaken at the same time as this geotechnical investigation and is reported separately (Ref. 86529.00.R.006).

2. Assessment Requirements

The Department of Planning and Environment have issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared having regard to the SEARs to provide a Geotechnical Report.

In addition, this report addresses the future assessment requirements set out in Schedule 2 Part B of the State Significant Development Consent SSD 9249 as follows:

Requirement	Where Addressed
Condition of consent C48 (SSD9249). The future development application must be accompanied by a detailed Geotechnical Assessment Report with details of proposed mitigation measures during excavation works and measures to control impacts on adjoining properties due to vibration during construction.	Section 10.1, Section 10.2
Mitigation Measure CP-CG2: A Geotechnical Statement is to be prepared and submitted with the Stage 2 Development Application assessing the potential impacts of piling, excavation and construction on existing buildings and structures within the immediate vicinity of the site.	Section 10.6

3. Previous Investigations

3.1 Douglas Partners

Douglas Partners has undertaken numerous investigations in Moore Park including:

- Australian Rugby Development Centre to the west of the SFS (Project 84811.00, 2015);
- The Sheridan Building to the west of the SFS (Project 44783 dated May 2007);
- Bradman and Noble Stands at the SCG (Project 45867 series, 2009 to 2014);
- Victor Trumper Stand at the SCG (Project 44417 series);
- Dally Messenger scoreboard and screen at the SCG (Project 44582, 2007);
- Replica scoreboard at the SCG (Project 45050, 2007);
- Refurbishment works at the SFS (Project 72879, 2012);
- Eastern Distributor (various projects); and
- Fox Studios redevelopment of the former Showgrounds (various projects).

Relevant previous test results have been used to develop the geotechnical model of the site. The relevant previous boreholes logs, cone penetrometer test results and core photographs are provided in Appendix D.

3.2 Arup

Arup undertook a geotechnical investigation associated with the original Sydney Football Stadium development (Ref. TCT/3970 dated December 1985). This investigation included the drilling of boreholes and cone penetration testing. The report was provided to Douglas Partners by Infrastructure NSW and has been used to develop the geotechnical model of the site. The relevant previous boreholes logs and cone penetrometer test results are provided in Appendix D.

4. Site Description

The redevelopment site is located in the northern portion of the Moore Park precinct immediately to the south of Moore Park Road. It is bounded by sports administration buildings, the SCGT Member's Carpark (MP1) and recreation facilities to the west, Sydney Cricket Ground to the south, and the Fox Studios complex to the east. The area of the total development (i.e. the stadium footprint plus the surrounding precinct) is approximately 6 ha.

Natural ground levels in the area slope downwards to the south-west. Surface levels vary from about RL 52 m AHD in the north-eastern corner of the site to RL 40 m AHD along the western boundary. The landform has been altered and retaining walls have been constructed in and around the site.

The redevelopment site is across three separate titles: Lot 1 DP 205794 (entire lot), Lot 1528 DP 752011 (part lot) and Lot 1530 DP 752011 (part lot). The location of the site is shown on Drawing G1 in Appendix B.

5. Regional Geology and Hydrogeology

The *Sydney 1:100 000 Geological Series Sheet* indicates that the site is close to a boundary between Quaternary-aged marine sands and Hawkesbury Sandstone. The marine sands are transgressive dunes that comprise fine to medium-grained sand with podsols. Hawkesbury Sandstone typically comprises medium to coarse-grained quartz sandstone with minor shale and laminite lenses. An extract from the geological map is shown in Figure 1.

The marine sands at Moore Park form the upstream end of the Botany Aquifer which is a considerable groundwater resource between Paddington and Botany Bay. Groundwater is understood to be in the order of 3 m below the playing surface in the former stadium.

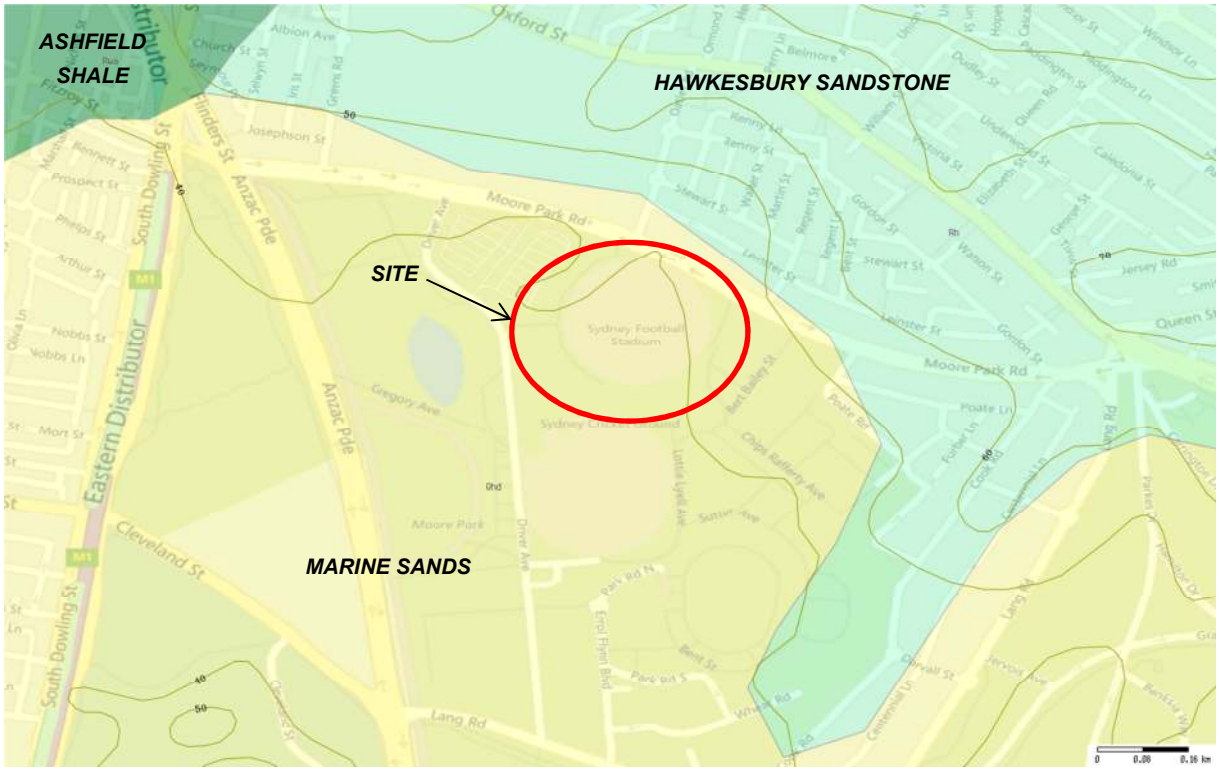

Figure 1: Extract from geological map with 10 m contours to AHD

6. Field Work

6.1 Methods

The field work for the 2018 investigation included the drilling of eight cored boreholes (C5, C18, C20, C21, C24, C31, C36 and C37). The field work for the 2019 investigation included the drilling of an additional eight cored boreholes (BH101 to BH108). A suffix (e.g. BH101D) denotes that more than one attempt was made to complete the relevant borehole.

The boreholes were drilled to depths of between 8.4 m and 38.1 m using several geotechnical investigation rigs. They were commenced using non-destructive drilling (NDD) techniques (i.e. a vacuum truck and/or hand-auger) until natural materials were encountered and then continued using either solid flight augers or rotary wash-boring equipment until weathered rock was encountered. Standard penetration tests (SPTs) were also undertaken at regular depth intervals within the soil overburden.

Once weathered rock was encountered, NMLC-sized diamond core drilling equipment was used to obtain 50 mm diameter continuous core samples of the rock for identification and strength testing purposes.

Boreholes C4, C7 and C14 were also proposed as cored boreholes, however the NDD refused in sandstone cobble/boulder filling or on concrete, and these boreholes were discontinued due to the risk of buried service strikes. Bores C1, C25 and C35 were drilled using NDD and/or augers.

Groundwater monitoring wells were installed in boreholes C1, C5, C21, C25, C35, C37, BH101, BH103 and BH107 at the completion of drilling. This involved inserting Class 18 uPVC screen and casing to the required depth, a gravel filter around the screen, a bentonite plug above the filter and backfill to the surface. A steel cover was mounted flush with the surrounding ground surface to complete the well. A data logger was installed in wells C35 and C37 to monitor groundwater levels.

A summary of the groundwater well construction details is provided in Table 1. Information is also contained on the relevant borehole log in Appendix F.

Table 1: Groundwater Well Construction Details (RL, m to AHD)

Details	Groundwater Well Location								
	C1	C5	C21	C25	C35	C37	BH101	BH103	BH107
RL Ground Surface	45.9	42.2	42.5	45.1	42.1	38.6	46.3	39.3	40.5
RL Top of Screen	42.9	39.2	39.5	43.6	40.6	35.6	40.8	36.3	37.7
RL Base of Screen	39.9	33.2	33.5	40.6	37.6	29.6	22.8	28.0	23.8

The ground surface levels at the test locations (to AHD) were either measured, or interpolated from a survey plan using coordinates measured, using a differential global positioning system (dGPS) receiver.

6.2 Results

The subsurface conditions encountered during the geotechnical investigation are presented in the borehole logs in Appendix C. The logs from the contamination assessment are also included. Notes defining descriptive terms and classification methods are included in Appendix A.

The geotechnical boreholes encountered the following materials:

- FILLING – asphalt surface, sandy and gravelly filling with varying proportions of silt, clay, sandstone cobbles and boulders, concrete, brick, tile, timber and ash to depths of between 0.6 m and 7.0 m;
- NATURAL SANDS – loose to very dense sand underlying the filling to depths of between 2.6 m and 23.0 m. It is noted that a second deeper sand layer was encountered in bore C37 between depths of 26.7 m and 30.5 m;
- NATURAL CLAYS – loose to dense clayey sand and firm to very stiff sandy clay/silty clay underlying the sands to depths of between 3.5 m and 31.2 m. It is noted that a second deeper clay layer was encountered in bore C37 between depths of 20.0 m and 26.7 m;

- BEDROCK – sandstone from depths of between 1.9 m and 31.2 m, to the base of the cored boreholes at depths of between 8.4 m and 38.1 m. The rock was typically weathered at its surface, increasing in strength to low, medium and high strength with depth.

Tables 2A and 2B summarise the levels at which different materials were encountered in the cored boreholes.

Table 2A: Summary of Material Strata Levels

Strata	RL of Top of Material Strata (m, AHD)							
	C5	C18	C20	C21	C24	C31	C36	C37
Ground Surface/Filling	42.2	45.9	40.4	42.5	39.1	40.8	41.4	38.6
Natural Sands	40.6	NE	39.4	38.3	38.4	38.6	40.5	37.7
Natural Clays	31.4	NE	27.0	19.5	NE	23.9	30.4	18.6*
Weathered Sandstone	26.5	44.0	25.4	17.5	32.1	9.6	25.9	8.1
MS or Stronger Sandstone	25.0	43.5	24.1**	12.0	30.9	8.4	23.2	6.7
Base of Borehole	20.4	37.5	18.7	8.5	25.7	4.6	19.8	0.5

Table 2B: Summary of Material Strata Levels

Strata	RL of Top of Material Strata (m, AHD)							
	101D	102	103	104A	105	106	107	108
Ground Surface/Filling	46.3	47.0	39.3	39.3	46.9	39.4	40.5	40.0
Natural Sands	40.3	40.0	37.3	38.3	42.4	38.6	38.7	37.2
Natural Clays	30.8	33.0	34.8	35.8	40.9	29.9	28.2	27.0
Weathered Sandstone	22.5	26.9	34.1	35.1	38.5	24.5	22.5	20.7
MS or Stronger Sandstone	21.5	24.2	33.3**	35.1	35.7	21.7	21.0	19.7**
Base of Borehole	15.5	20.4	22.0	26.2	30.8	14.9	14.5	9.6

Notes: MS = medium strength; NE = not encountered; *sand layer also encountered below the clays
**variable strength layers below top of medium strength

Groundwater was observed in only five locations during auger drilling. The use of water during rotary drilling and coring in the deeper boreholes prevented observations in the other locations. The observations are summarised in Table 3.

Table 3: Groundwater Observations During Drilling

Groundwater Observations During Drilling (RL, m AHD)				
C24	C37	BH103	BH106	BH107
37.7	34.0	35.1	33.9	32.5

Groundwater level measurements made during subsequent site visits are provided in Table 4.

Table 4: Groundwater Level Measurements in Monitoring Wells

Date	Groundwater Observations in Wells (RL, m AHD)								
	C1	C5	C21	C25	C35*	C37	BH101	BH103	BH107
30 May 2018	<39.9	<34.5	<33.5	40.9	<37.6	32.7	N/A	N/A	N/A
23 Mar 2019	N/A	N/A	N/A	<40.9	33.2	32.5	34.3	N/A	33.2

*Groundwater measured in an existing well adjacent to C35 at RL 34.5 m AHD; N/A = not accessible

The groundwater loggers installed in wells C35 and C37 remained in place over the period July 2018 to March 2019. The data were downloaded from the loggers at the completion of the monitoring period and the readings were corrected for atmospheric pressure. Graphs showing the groundwater levels, and the rainfall measurements from the Bureau of Meteorology monitoring station in Randwick, are provided in Figures 1 and 2.

The monitoring indicates that the groundwater levels are between RL 33.2 m and RL 34.0 m AHD in the south-eastern area of the site (C35) and between RL 32.5 m and RL 33.0 m AHD in the south-western portion of the site (C37). There appears to be little or no response to rainfall at the locations of the wells.

The wells installed in the northern area of the site were dry. The well in BH103 has not been able to be measured since installation due to demolition works in the vicinity of this well.

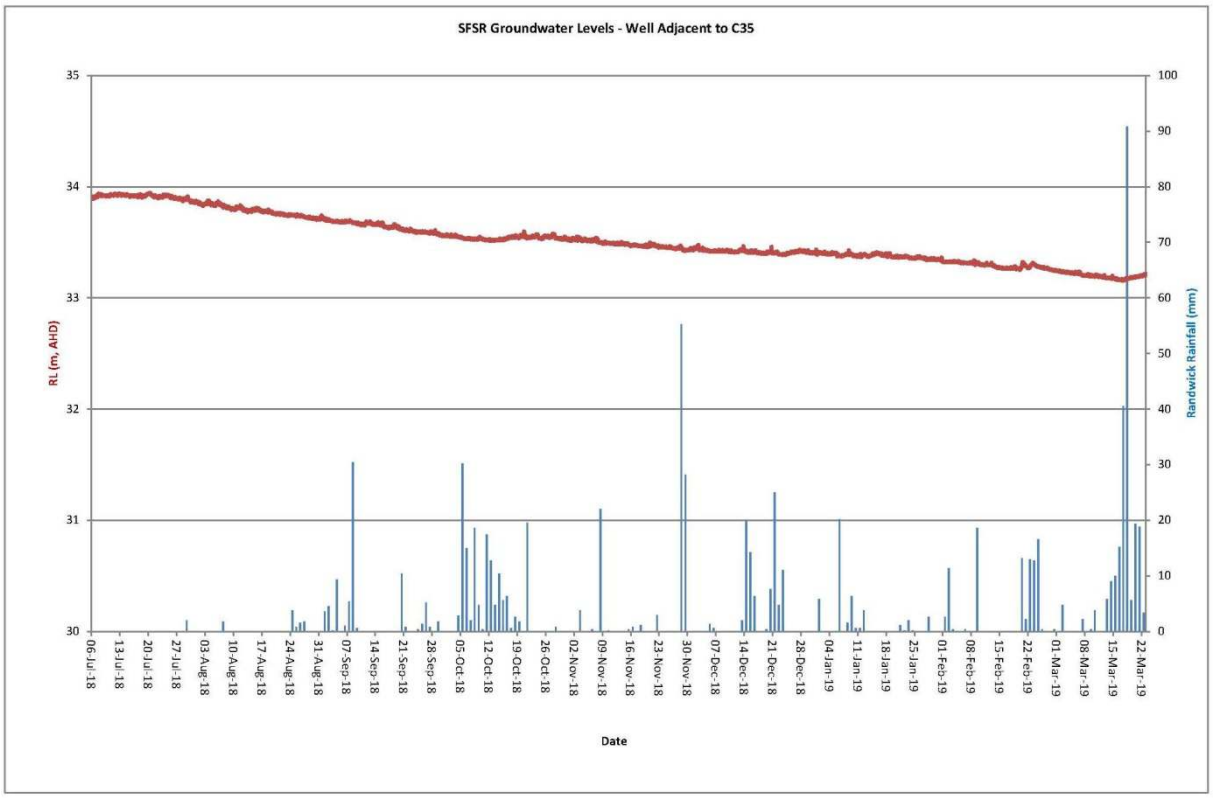

Figure 1: Groundwater level observations in well adjacent to C35

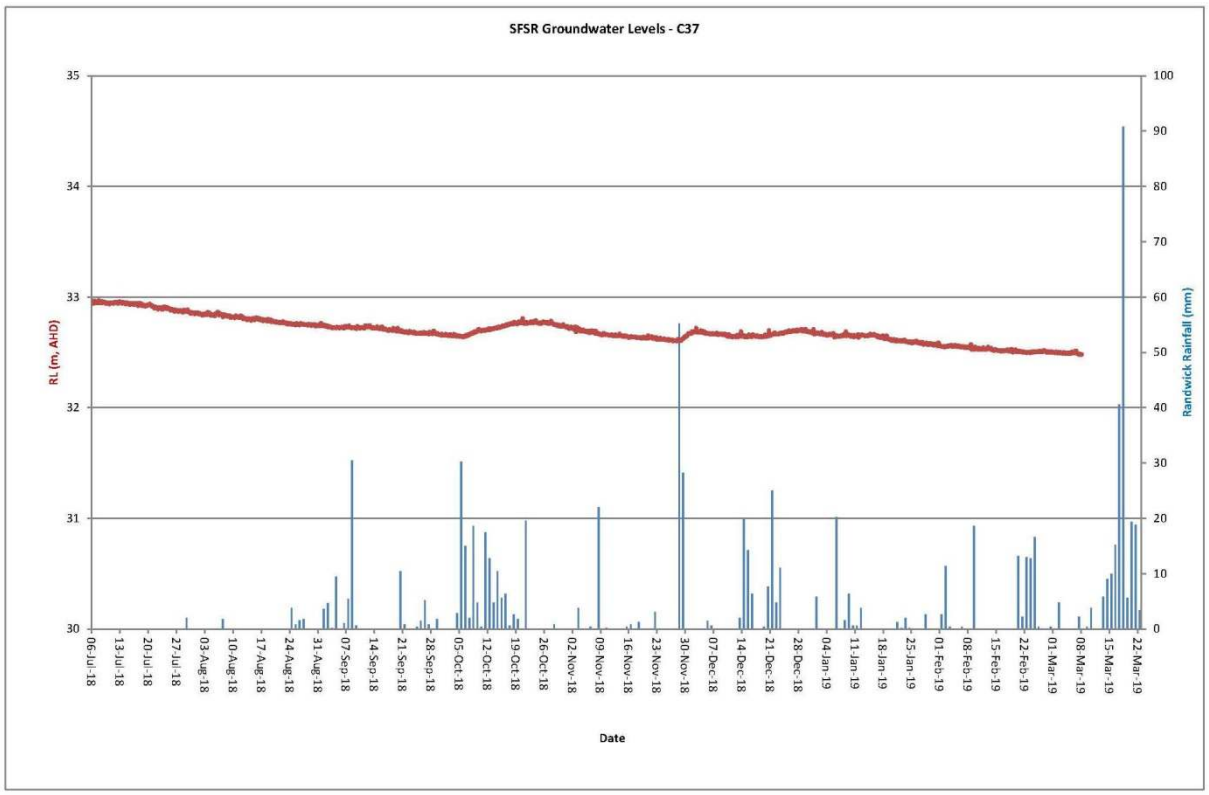

Figure 2: Groundwater level observations in well C37

7. Laboratory Testing

7.1 Rock Samples

A total of 123 samples obtained from the rock core were tested for axial point load strength index (Is_{50}). The results ranged between 0.1 MPa and 3.5 MPa which correspond to very low to low strength and very high strength rock, respectively.

Hawkesbury Sandstone typically exhibits UCS:Is_{50} ratios of between 16 and 24, with an average ratio of 20 often adopted. The Is_{50} results therefore suggest average UCS values in the order of 2 MPa to 70 MPa.

7.2 Soil Samples

Five soil samples obtained from the boreholes were analysed for pH, electrical conductivity (EC), and chloride ion and sulphate ion concentrations to aid in the assessment of aggressivity. The results are summarised in Table 5. The detailed results are attached in Appendix E.

Table 5: Summary of Soil Aggressivity Results

Sample/Depth (m)	Description	pH (pH units)	EC (µS/cm)	Chloride (mg/kg)	Sulphate (mg/kg)
C5/8.5-8.95	Sand	5.8	37	<10	45
C5/11.5-11.95	Clayey sand	4.8	36	<10	41
C15/0.9-1.0	Sand	7.3	15	<10	<10
C17/0.9-1.0	Sand	7.6	36	<10	28
C37/13.0-13.45	Sand	5.9	26	<10	28

Notes: EC = electrical conductivity; All samples mixed at a ratio of 1(soil):5(water) prior to testing

Particle size distribution testing was also undertaken on five sand samples and these results are attached in Appendix E.

8. Geotechnical Model

The geotechnical model interpreted for the site can be described as follows:

- Filling of varying depth which was primarily sandy with sandstone gravel, cobbles and boulders (i.e. ripped sandstone). Some of this material may have been excavated from the north-eastern portion of the site and moved around to level the area during the original SFS development. Some inclusions of concrete, brick and tile were also observed within the filling;

- Natural sandy soils in the upper portion of the overburden. The sands varied from loose to very dense. The thickness of the sand layer generally increased towards the south-western portion of the redevelopment site;
- Natural clayey soils in the lower portion of the overburden apart from the north-eastern area where the sands were directly underlain by bedrock. The clays were typically sandy or silty, and firm to very stiff in strength. The thickness of the clay layer generally increased towards the south-western portion of the redevelopment site;
- Sandstone bedrock beneath the natural soils. The depth to rock beneath the existing stadium tends to increase towards the south-west, with what appears to be a deep infilled channel in the south-western corner of the site. Rock levels ranged from about RL 45 m AHD in the north-eastern corner to below RL 10 m AHD in the south-western corner. The rock is generally initially weathered, grading to low, medium and high strength with depth. Some bands/layers of weaker material are also present;
- The groundwater level varies across the site. It was measured at RL 40.9 m AHD in the north-eastern corner which is close to the bedrock surface. The measured groundwater level drops to RL 34.0 m AHD in the south-eastern corner and RL 33.0 m AHD in the south-western corner; both of these levels are within the natural sand profile.

This interpreted geotechnical model is shown on Drawing G102 (Interpreted Contours Showing Top of Rock) and on Drawings G103 to G106 (Sections A-A' to D-D') in Appendix B.

9. Proposed Development

The project includes the demolition of the existing Sydney Football Stadium and surrounding buildings, followed by the construction of a new stadium that will cover a slightly larger footprint than the existing stadium. The footprint will be extended westwards to accommodate the larger area.

The geotechnical issues considered relevant to the proposed development include excavation, excavation support, site preparation, groundwater and foundations. Comments on seismicity and aggressivity are also provided.

10. Comments

10.1 Excavation and Vibration

The extent of excavation required for the new stadium will depend upon the final cut-to-fill design levels. It is possible that excavation in bedrock may be required in the north-eastern portion of the site, however the remainder of the excavation is likely to be required in filling and sandy soils.

Excavation in the filling and sandy soils should be readily achievable using excavators with bucket attachments. Excavation in sandstone bedrock of low strength or stronger is likely to require heavy ripping, rock hammering and/or rock sawing.

Hammering and ripping of bedrock will induce vibrations which have the potential to damage sensitive structures. Vibrations attenuate with distance (both vertical and horizontal) and therefore the effects that vibrations may have on a structure is dependent on its proximity to the source. It is recommended that further information is obtained in relation to vibrations prior to the commencement of rock excavations. A vibration trial may be required and, depending on the results of the trial, continuous monitoring may be needed close to sensitive structures.

As a guide, peak particle velocity limits in the order of 8 mm/s may be required to reduce human discomfort in adjacent buildings. A more stringent limit of 3 mm/s to 5 mm/s may be required to reduce the risk of damage to sensitive heritage structures and/or buildings founded on loose sand.

10.2 Excavation Support

10.2.1 General

Vertical excavations in filling and sandy soil are not expected to be stable for any extended period of time. Temporary batters may be feasible above the groundwater table and should be cut no steeper than 1.5(H):1(V) for cuts up to 3 m depth. Flatter batters or batters that incorporate intermediate benching should be provided for deeper cuts and stability analysis will need to be undertaken to confirm appropriate batter geometries in this case.

Vertical batters in competent sandstone may be suitable in both the temporary and permanent cases provided that adverse jointing or defects are not exposed in the rock face. Inspection of rock excavations by a geotechnical professional will be required during construction to advise on any stabilisation works that may be necessary.

Shoring support will be required where temporary batters are not feasible. Suitable shoring systems where groundwater is below the proposed bulk excavation level include contiguous pile walls and driven steel sheet piles. Contiguous pile walls can be constructed by installing concrete or grout-injected continuous flight auger (CFA) piles around the perimeter of the excavation so that the adjacent piles are close or touching, thereby supporting the material behind the wall. Any gaps between piles can be plugged with grout or shotcrete as excavation proceeds.

Driven steel sheet piles are installed around the perimeter of the excavation area prior to the commencement of the works. The adjacent sheets are interlocked to provide support to the material behind the wall. Driving sheets through obstructions in the filling and dense sands may prove problematic and pre-drilling in some areas of the site may be necessary. Vibrations induced by driving equipment may also cause damage to adjacent structures and detract from the suitability of this option. Steel sheet piles will also only be feasible in areas of the site where the level of bedrock is well below the excavation level so that the sheets can be driven to a sufficient depth to achieve the necessary passive restraint.

For excavations below the groundwater table or where a watertight shoring wall is required, retaining walls such as secant pile walls or diaphragm-type walls will be necessary. Secant pile walls are constructed in a similar manner to contiguous pile walls except that the adjacent piles overlap creating a water-tight seal. This can be achieved by using a hard-soft pile arrangement where the soft (weak)

piles are installed first and the hard (strong) piles installed to overlap with the soft pile, or by grouting between the hard piles to fill the gap.

Diaphragm-type walls form a wall of constant thickness using either a large excavator or clamshell bucket to excavate a trench prior to filling the trench with concrete. A bentonite slurry is usually required to keep the trench open in the sands. Cutter-soil mix (CSM) walls, where cement/grout is mixed with the existing soils are also used to construct continuous shoring walls in sands.

Deep shoring walls are likely to require the use of temporary ground anchors to provide lateral support during construction. Permanent lateral support would need to be provided by the finished structure or, where required, by permanent ground anchors.

10.2.2 Earth Pressures

Excavation faces retained either temporarily or permanently will be subjected to earth pressures from the ground surface down to either the base of the excavation or the top of competent medium strength sandstone, whichever is shallower. Table 6 outlines material and strength parameters that could be used for the preliminary design of excavation support structures.

Table 6: Material and Strength Parameters for Excavation Support Structures

Material	Bulk Density (kN/m^3)	Friction Angle (deg.)	Cohesion (kPa)	Young's Modulus (MPa)	Coefficient of Active Earth Pressure (K_a)	Coefficient of Earth Pressure at Rest (K_o)	Ultimate Passive Earth Pressure
Sandy Filling	20	27	0	10	0.4	0.6	NA
vl to l Sand	20	30	0	15	0.35	0.5	K_p = 3.0
md to d Sand	20	35	0	30	0.3	0.45	K_p = 3.5
f to st Clay	20	25	2	20	0.3	0.45	100 kPa
vst Clay	20	25	4	30	0.25	0.35	150 kPa
Weathered Rock	22	35	10	50	0.15	0.2	1000 kPa
LS Sandstone	23	36	15	100	0.1	0.15	1500 kPa
MS or HS Sandstone	23	38	50	500	0	0	3000 kPa

Notes: vl = very loose; l = loose; md = medium dense; d = dense; f = firm; st = stiff; vst = very stiff;
LS = low strength; MS = medium strength; HS = high strength; NA = not applicable

Cantilevered retaining walls and walls with a single row of anchors could be designed by assuming a triangular lateral earth pressure distribution (increasing linearly with depth). For preliminary design purposes, a trapezoidal lateral earth pressure distribution where the maximum pressures act over the central 60% of the wall could be assumed for retaining walls with multiple rows of anchors/support. Refinement of the design should be undertaken using a computer program such as WALLAP, PLAXIS or FLAC.

Lateral pressures due to surcharge loads from sloping ground surfaces, adjacent buildings, road pavements and construction machinery should be included where relevant. Drainage should also be provided to prevent hydrostatic pressure from acting on the shoring walls if hydrostatic pressures are not incorporated into the assumed surcharges.

10.2.3 Rock Wedges

Hawkesbury Sandstone usually contains sub-horizontal bedding. However, two major joint sets are usually present within the rock mass which strike slightly east of north and slightly south of east. These joints are often steeply inclined (i.e. approximately 70^{o}) and can dip in either direction normal to the strike. If an excavation runs parallel to the strike of these joints and exposes a joint above the excavation level then large wedges of rock can mobilise and slide into the excavation. The orientation of large excavations should be considered in relation to the potential presence of these defects and the shoring system designed accordingly.

10.2.4 Ground Anchors

Where necessary, the use of declined tie-back (ground) anchors is suggested for the temporary lateral restraint of the pile walls. Such ground anchors should be declined below the horizontal to allow anchorage into the stronger materials at depth. The design of temporary ground anchors for the support of pile wall systems may be carried out using the allowable average bond stresses at the grout-rock/soil interface given in Table 7.

Table 7: Allowable Bond Stresses for Anchor Design

Material Description	Allowable Bond Stress (kPa)
Medium Dense to Dense Sand	25
Low Strength Sandstone	200
Medium and High Strength Sandstone	500

Where the depth to bedrock is significant, secondary-grouted anchors could be used in the natural soils to increase the anchor capacity. This technique involves installing a conventionally-grouted anchor and then, once cured, injecting grout into the anchor at a higher pressure to crack the primary grout and densify the surrounding materials. This technique is fairly specialised and only experienced contractors should be engaged for the design and installation of secondary-grouted anchors.

Temporary ground anchors should be designed to have a free length equal to their height above the base of the excavation and have a minimum 3 m bond length. After installation they should be proof loaded to 125% of the design working load and locked-off at no higher than 75% of the working load.

Periodic checks should be carried out during the construction phase to ensure that the lock-off load is maintained and not lost due to creep effects or other causes.

The parameters given in Table 7 assume that the anchor holes are clean, with grouting and other installation procedures carried out carefully and in accordance with good anchoring practice. Careful installation and close supervision by a geotechnical specialist may allow increased bond stresses to be adopted during construction, subject to testing.

The use of permanent anchors would require careful attention to corrosion protection. Further advice on design and specification should be sought if permanent anchors are to be employed on this site.

It will be necessary to obtain permission from neighbouring landowners prior to installing anchors that will extend beyond the perimeter of the site. In addition, care should be taken to avoid damaging buried services and pipes during anchor installation.

10.3 Site Preparation

Any existing filling that is required to support structures and pavements will need to be reworked to reduce the potential for unacceptable settlements associated with poorly or variable compacted filling. New filling will also need to be placed in accordance with an engineering specification.

The following procedure could be followed during earthworks activities:

- Strip organic-rich topsoil from areas of the site in which filling, structures and/or pavements are proposed;
- Excavate existing filling in areas of the site in which filling, structures and/or pavements are proposed;
- Compact the exposed surface and proof-roll using a roller of 10 t deadweight (or equivalent) in the presence of a geotechnical engineer. Any areas exhibiting unacceptable movements during the proof-roll may require further rectification;
- Place filling in maximum 250 mm thick layers and compact to achieve a dry density ratio of between 98% and 102% relative to Standard compaction. The upper 0.5 m of pavement subgrade areas should be compacted to achieve a dry density ratio of between 100% and 102% relative to Standard compaction;
- The moisture content should be within 2% of the Standard optimum moisture content of the material if it exhibits clay-like properties;
- A layer of granular product (e.g. roadbase, recycled crushed concrete etc.) should be considered as the top layer of filling to improve trafficability on site, particularly during and following periods of wet weather;
- Density testing should be undertaken in accordance with the requirements of AS 3798 – 2007 *Guidelines on earthworks for commercial and residential developments*.

The existing filling should be suitable for re-use from a geotechnical perspective provided that any deleterious materials are removed during placement. If filling is imported to the site then the engineering properties (e.g. plasticity, reactivity, CBR etc.) should ideally be equivalent, or superior, to the existing materials on the site.

Although specific testing has yet to be undertaken, the sandy soils and ripped sandstone filling are likely to exhibit a CBR in the order of 10% provided the subgrade is prepared in accordance with the advice provided above.

10.4 Groundwater

The groundwater levels vary across the site and dip from the north-east to the south-west. The levels have been measured at RL 40.9 m AHD in the eastern access road adjacent to the SFS, at RL 34.0 m AHD near the south-eastern corner of the SFS, and RL 33.0 m AHD in the south-western corner of the site.

It is likely that the groundwater level is highest in the north-eastern corner because this is where the bedrock level is highest, and therefore water flowing through the sandy soil is trapped above the bedrock. As the rock level drops off to the south-west, the groundwater level also drops however is well above the bedrock level in the south-western corner within the sands.

The groundwater level is likely to vary as a result of rainfall events and the volume of water that is pumped from the aquifer for the purpose of irrigating both the SFS and SCG playing surfaces. The level may therefore rise during the construction of the new stadium as the irrigation demand will be lower, and return to normal levels once the new stadium is complete.

Douglas Partners has measured groundwater level changes in the order of 1 m to 3 m within the Botany Aquifer, with the greatest changes often occurring at the edges of the aquifer (i.e. where rock is shallower). As such, fluctuations are expected to occur on this site, particularly in the northern area. On the basis of the information available, the water level beneath the playing surface could rise significantly, possibly highest in the north-eastern portion of the site. More information on irrigation demand and detailed groundwater modelling would be required to confirm likely groundwater level changes over time.

10.5 Foundations

10.5.1 Spread Footings

Isolated spread footings (e.g. pad footings and strip footings) are only likely to be suitable for supporting the proposed structures in areas where sandstone bedrock is exposed at or close to the bulk excavation level. The sandy soils will not be able to support the column loads expected.

Spread footings could be designed using the parameters provided in Table 8.

Table 8: Design Parameters for Spread Footings

Material Description	Allowable Bearing Pressure (kPa)[1]	Young's Modulus (MPa)
Weathered Sandstone	1000	100
Low Strength Sandstone	3500	500
Medium Strength Sandstone	6000	1000
High Strength Sandstone	10,000	2000

Notes: [1]Provided that adverse seams are not present within the zone of influence of the footings

Settlement of a footing is dependent on the load applied to the footing and the foundation conditions below the footing. The total settlement of a spread footing designed using the parameters provided in Table 8 would be expected to be less than 1% of the footing width upon application of the design working load.

All footing excavations should be inspected by a geotechnical engineer to check the adequacy of the foundation material. In addition, spoon testing should be carried out in 30% to 50% of all footings designed on the basis of bearing pressures greater than 3500 kPa.

10.5.2 Raft Slabs

Raft slabs are sometimes used to transfer column loads into weaker materials that cannot support spread footings (e.g. sands). However, the varying thickness and strength of the soil profile may result in unacceptable differential settlements. The structural designer will need to make an assessment on whether articulation of the structure at critical locations can be used to alleviate the differential settlement issue.

Raft slab design is a complex and iterative process as the efficiency of the raft in spreading column loads into the foundation material will govern the elastic behaviour. For preliminary design purposes, a 10 m by 10 m slab was modelled over two soil profiles: 8 m of soil over sandstone bedrock at borehole C24, and 30 m of soil over sandstone at borehole C31. Table 9 provides the results of the analysis.

Table 9: Results of Preliminary Raft Slab Settlement Analysis

Description	Profile 1 (Borehole C24)	Profile 2 (Borehole C31)
Assumed raft dimensions	10 m by 10 m	10 m by 10 m
Assumed uniform pressure	50 kPa	50 kPa
Elastic Settlement	13 mm	24 mm
Modulus of Subgrade Reaction	k_s = 3.8 kPa/mm	k_s = 2.1 kPa/mm

The results indicate that the depth of the soil profile will have a significant impact on the settlement of a raft slab. It should be noted that this analysis is preliminary only and more detailed analysis will be required to confirm design values. A piled raft slab could be considered to support concentrated loads and control differential settlements.

10.5.3 Piles

Piles could be used to support the proposed structures where bedrock is below the proposed excavation level. Suitable pile types include concrete or grout-injected CFA piles, bored piles drilled with temporary or permanent casing, or driven pile-types such as precast concrete, steel tube or steel H-section piles.

CFA piles and bored piles could be designed using the parameters provided in Table 10. Parameters for both the working stress and limit-state design approaches have been provided.

Table 10: Design Parameters for CFA and Bored Piles in Compression

Material Description	Allowable Parameters		Ultimate Parameters		Young's Modulus (MPa)
	End-Bearing Pressure (kPa)	Shaft Adhesion (kPa)[1]	End-Bearing Pressure (kPa)	Shaft Adhesion (kPa)[1]	
Weathered Sandstone	1000	50	3000	150	100
Low Strength Sandstone	3500	300	15,000	600	500
Medium Strength Sandstone	6000	600	30,000	1200	1000
High Strength Sandstone	10,000	1000	60,000	2000	2000

Notes: [1]Only where adequate socket roughness has been achieved. Reduce by 50% for tension and analyse for cone pullout

It should be noted that the serviceability limit-state is likely to govern the design of the piles and the ultimate bearing pressures provided in Table 10 are unlikely to be able to be achieved in practice. An appropriate geotechnical strength reduction factor should be applied when using the limit-state approach as outlined in AS 2159 – 2009 *Piling – Design and installation*.

Settlement of a pile is dependent on the loads applied to the pile and the foundation conditions in the socket zone and below the pile toe. The total settlement of a pile designed using the 'allowable' parameters provided in Table 10 would be expected to be less than 10 mm upon application of the design load.

Driven piles are often used to support high column loads on sites in which driving is practicable. The capacity of a pile driven to near-refusal in rock is likely to be governed by the structural capacity of the pile and the weight/efficiency of the driving equipment. The installation of test piles and pile load testing should be undertaken to confirm driving conditions, pile set, pile capacity and an appropriate geotechnical strength reduction factor.

Settlement of a driven pile should be estimated using load test data obtained during the design confirmation stage of the piling process.

The location of Busby's Bore in the northern portion of the site will need to be considered in the design of foundation piles. Specific advice can be provided once the pile layout has been finalised, however for preliminary purposes it could be assumed that the zone of influence of Busby's Bore is the material above a line drawn at 45^{o} above the base of the tunnel.

10.6 Potential Impacts on Existing Buildings and Structures

The comments provided in Sections 10.1 (Excavation and Vibration), 10.2 (Excavation Support), 10.3 (Site Preparation), 10.4 (Groundwater) and 10.5 (Foundations) are aimed at ensuring the proposed works are undertaken in a manner that protects existing buildings and structures within the immediate vicinity of the site. Douglas Partners confirms that the works, if undertaken in accordance with our recommendations and industry best-practice, should be able to be completed without impacting neighbouring buildings.

10.7 Seismicity

A Hazard Factor (*Z*) of 0.08 would be appropriate for the development site in accordance with Australian Standard AS 1170.4 – 2007 *Structural design actions – Part 4: Earthquake actions in Australia*. The site sub-soil class of the entire site would be Class C_e based on the depths and strengths of the materials encountered in the boreholes.

If the new structure is designed as a series of separate adjoining structures, the site sub-soil class could be revised to Class B_e in areas where less than 3 m of soil and weathered rock are present to allow efficiencies to be gained in the seismic design.

10.8 Aggressivity

The laboratory test results for soil aggressivity were compared with the exposure classifications outlined in Australian Standard AS 2159 – 2009 *Piling – Design and installation* when available. Table 11 summarises the exposure classifications for steel and concrete piles based on the average laboratory test results.

Table 11: Exposure Classifications for Steel and Concrete Piles

Type of Laboratory Analysis	Exposure Classification for Steel Piles	Exposure Classification for Concrete Piles
Soil	Non-aggressive	Non-aggressive

The designers should take the exposure classification into account when designing for durability.

11. Limitations

Douglas Partners Pty Ltd (DP) has prepared this report for the proposed Sydney Football Stadium Redevelopment project at Moore Park, in accordance with DP's proposal dated 19 September 2018 and any subsequent changes in scope requested by Lendlease Building Pty Ltd. The report is provided for the use of Lendlease Building Pty Ltd for this project only and for the purpose(s) described in the report. It should not be used for other projects or by a third party.

The results provided in the report are indicative of the sub-surface conditions only at the specific sampling or testing locations, and then only to the depths investigated and at the time the work was carried out. Subsurface conditions can change abruptly due to variable geological processes and also as a result of anthropogenic influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be limited by undetected variations in ground conditions between sampling locations.

This report must be read in conjunction with all of the attached notes and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion given in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

The contents of this report do not constitute formal design components such as are required, by the Health and Safety Legislation and Regulations, to be included in a Safety Report specifying the hazards likely to be encountered during construction and the controls required to mitigate risk. This design process requires risk assessment to be undertaken, with such assessment being dependent upon factors relating to likelihood of occurrence and consequences of damage to property and to life. This, in turn, requires project data and analysis presently beyond the knowledge and project role respectively of DP.

DP may be able, however, to assist the client in carrying out a risk assessment of potential hazards contained in the Comments section of this report, as an extension to the current scope of works, if so requested, and provided that suitable additional information is made available to DP. Any such risk assessment would, however, be necessarily restricted to the geotechnical/groundwater components set out in this report and to their application by the project designers to project design, construction, maintenance and demolition.

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Appendix A

About this Report

About this Report

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Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Sampling Methods

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Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:

  4,6,7
  N=13

- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:

  15, 30/40 mm

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.

Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are based on Australian Standard AS 1726, Geotechnical Site Investigations Code. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	20 - 63
Medium gravel	6 - 20
Fine gravel	2.36 - 6
Coarse sand	0.6 - 2.36
Medium sand	0.2 - 0.6
Fine sand	0.075 - 0.2

The proportions of secondary constituents of soils are described as:

Term	Proportion	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	20 - 35%	Sandy Clay
Slightly	12 - 20%	Slightly Sandy Clay
With some	5 - 12%	Clay with some sand
With a trace of	0 - 5%	Clay with a trace of sand

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	vs	<12
Soft	s	12 - 25
Firm	f	25 - 50
Stiff	st	50 - 100
Very stiff	vst	100 - 200
Hard	h	>200

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	SPT N value	CPT qc value (MPa)
Very loose	vl	<4	<2
Loose	l	4 - 10	2 -5
Medium dense	md	10 - 30	5 - 15
Dense	d	30 - 50	15 - 25
Very dense	vd	>50	>25

Soil Descriptions

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Transported soils - formed somewhere else and transported by nature to the site; or
- Filling - moved by man.

Transported soils may be further subdivided into:

- Alluvium - river deposits
- Lacustrine - lake deposits
- Aeolian - wind deposits
- Littoral - beach deposits
- Estuarine - tidal river deposits
- Talus - scree or coarse colluvium
- Slopewash or Colluvium - transported downslope by gravity assisted by water. Often includes angular rock fragments and boulders.

Rock Strength

Rock strength is defined by the Point Load Strength Index ($Is_{(50)}$) and refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects. The test procedure is described by Australian Standard 4133.4.1 - 1993. The terms used to describe rock strength are as follows:

Term	Abbreviation	Point Load Index $Is_{(50)}$ MPa	Approx Unconfined Compressive Strength MPa*
Extremely low	EL	<0.03	<0.6
Very low	VL	0.03 - 0.1	0.6 - 2
Low	L	0.1 - 0.3	2 - 6
Medium	M	0.3 - 1.0	6 - 20
High	H	1 - 3	20 - 60
Very high	VH	3 - 10	60 - 200
Extremely high	EH	>10	>200

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Extremely weathered	EW	Rock substance has soil properties, i.e. it can be remoulded and classified as a soil but the texture of the original rock is still evident.
Highly weathered	HW	Limonite staining or bleaching affects whole of rock substance and other signs of decomposition are evident. Porosity and strength may be altered as a result of iron leaching or deposition. Colour and strength of original fresh rock is not recognisable
Moderately weathered	MW	Staining and discolouration of rock substance has taken place
Slightly weathered	SW	Rock substance is slightly discoloured but shows little or no change of strength from fresh rock
Fresh stained	Fs	Rock substance unaffected by weathering but staining visible along defects
Fresh	Fr	No signs of decomposition or staining

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with some fragments
Fractured	Core lengths of 40-200 mm with some shorter and longer sections
Slightly Fractured	Core lengths of 200-1000 mm with some shorter and loner sections
Unbroken	Core lengths mostly > 1000 mm

Rock Descriptions

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections} \geq \text{100 mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or better. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e. drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Symbols & Abbreviations

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Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core Drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U_{50}	Undisturbed tube sample (50mm)
W	Water sample
pp	pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

Symbols & Abbreviations

Graphic Symbols for Soil and Rock

General

Asphalt

Road base

Concrete

Filling

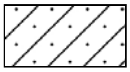
Soils

Topsoil

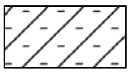
Peat

Clay

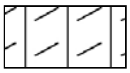
Silty clay

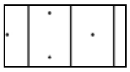

Sandy clay

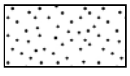
Gravelly clay

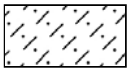

Shaly clay

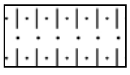
Silt


Clayey silt


Sandy silt

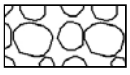

Sand

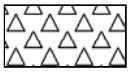

Clayey sand


Silty sand

Gravel

Sandy gravel


Cobbles, boulders

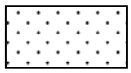

Talus

Sedimentary Rocks

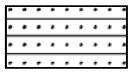
Boulder conglomerate

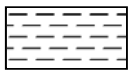
Conglomerate

Conglomeratic sandstone

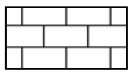

Sandstone

Siltstone


Laminite

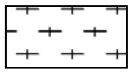

Mudstone, claystone, shale

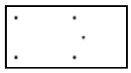
Coal


Limestone

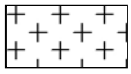
Metamorphic Rocks

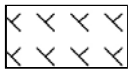
Slate, phyllite, schist

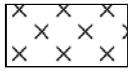

Gneiss

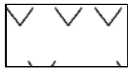

Quartzite

Igneous Rocks


Granite


Dolerite, basalt, andesite

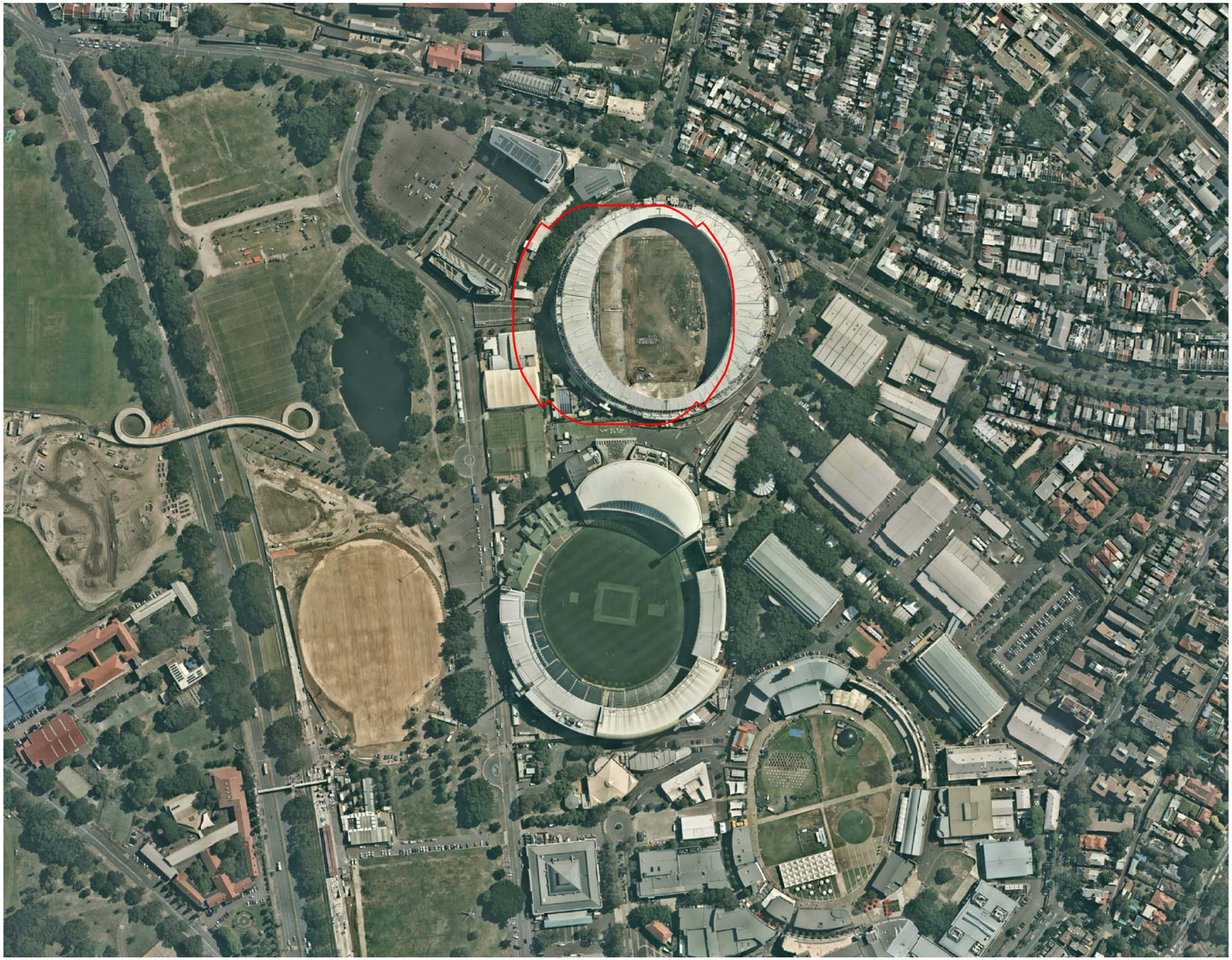

Dacite, epidote

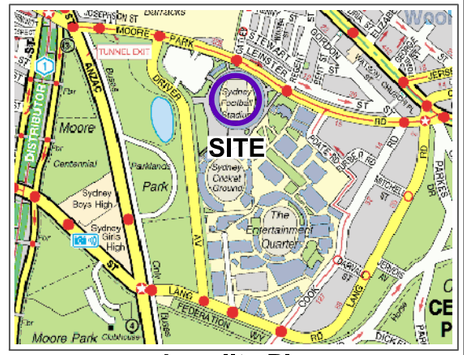

Tuff, breccia

Porphyry

Appendix B

Drawings





Locality Plan

NOTE:
1: Base image from Nearmap.com (Dated 4.3.2019)

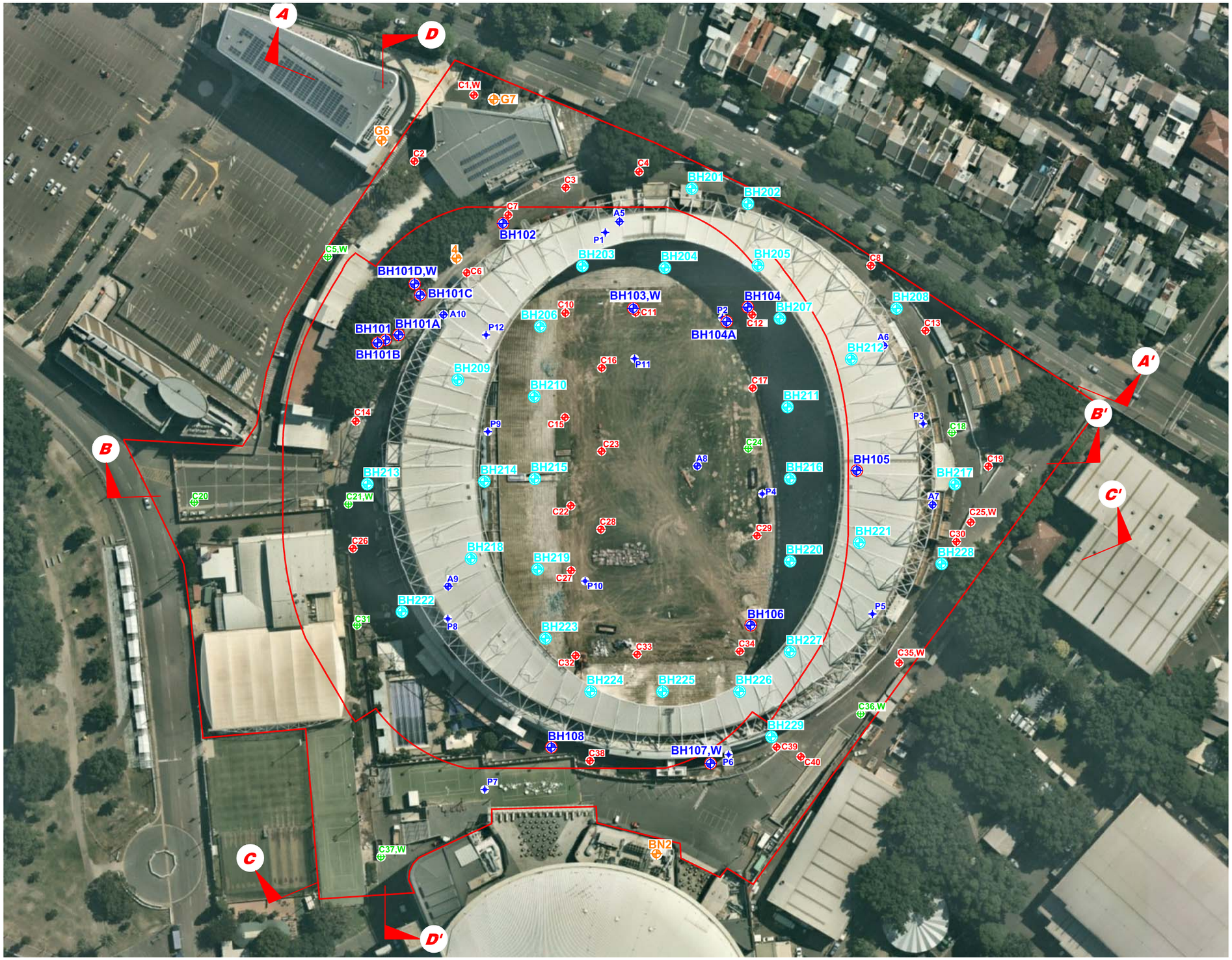
0 20 40 60 80 100 150 200 300 400m

1:4000 @ A3

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: Lendlease Building Pty Ltd		TITLE: **Approximate Ground Floor Footprint** **Sydney Football Stadium Redevelopment** **MOORE PARK**
	OFFICE: Sydney	DRAWN BY: PSCH	
	SCALE: 1:4000 @ A3	DATE: 4.4.2019	

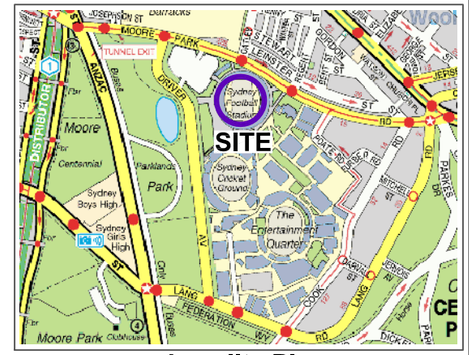
N

PROJECT No:	86529.00
DRAWING No:	G1
REVISION:	0



0 5 10 20 30 40 50 75 100 150m

1:1500 @ A3



Locality Plan

NOTE:
1: Base image from Nearmap.com (Dated 4.3.2019)
2: Test locations are approximate only and are shown with reference to existing features.

LEGEND

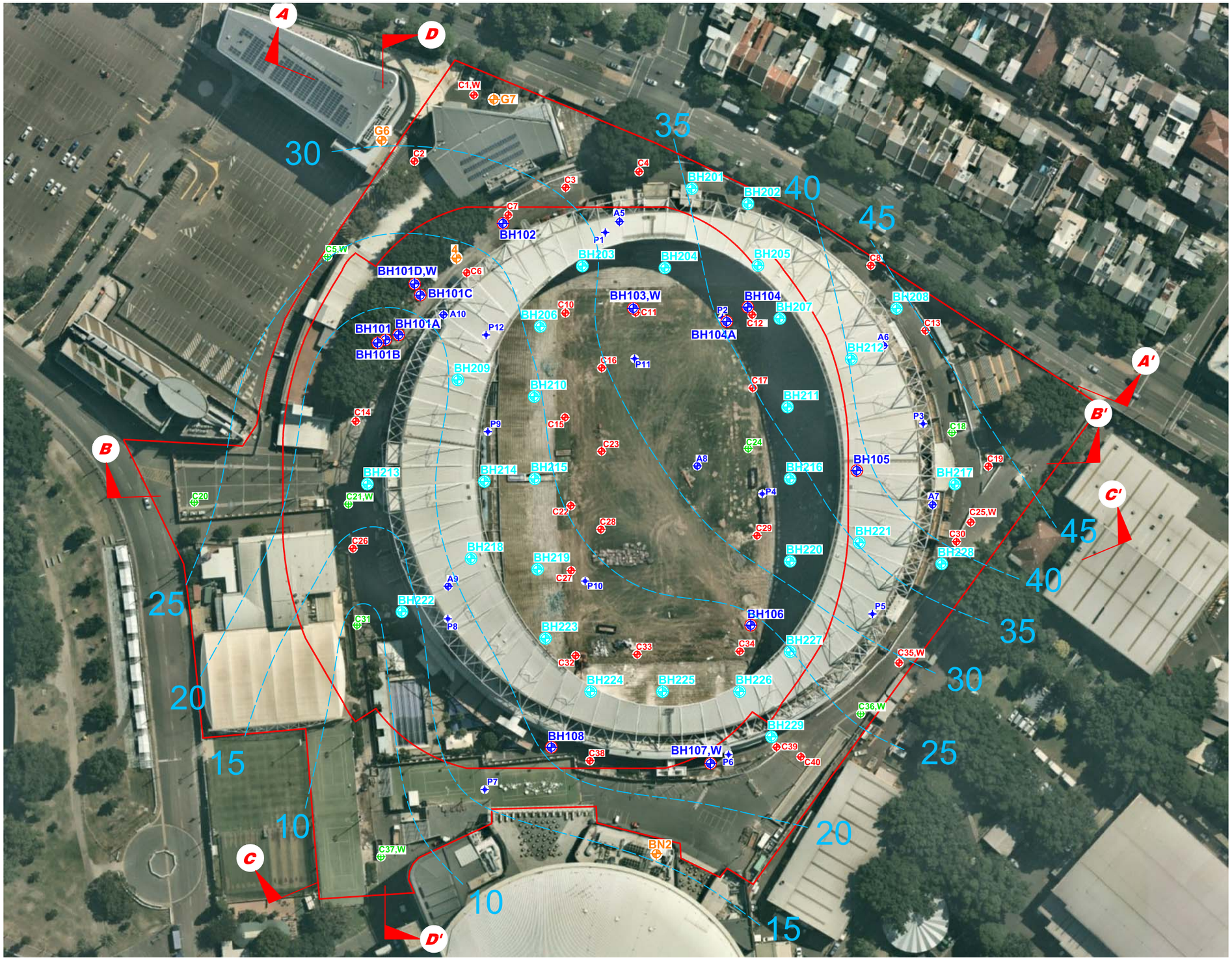
- Geotechnical borehole (2018)
- Contamination borehole (2018)
- **W** Groundwater well
- Previous Borehole (Douglas Partners)
- Previous Borehole (Arup, 1985)
- Previous CPT (Arup, 1985)
- Geotechnical borehole (DP, 2019)
- Contammination borehole (DP, 2019)
- Geotechnical Cross Section A-A'

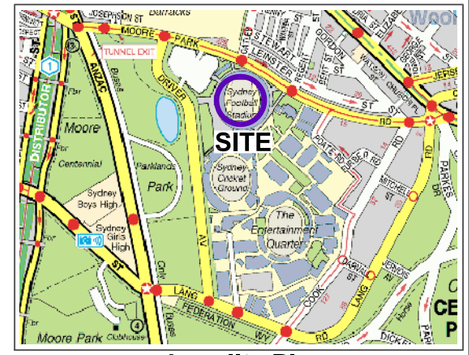
Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Lendlease Building Pty Ltd		
OFFICE: Sydney	DRAWN BY: PSCH	
SCALE: 1:1500 @ A3	DATE: 4.4.2019	

TITLE: **Borehole Location Plan**
Sydney Football Stadium Redevelopment
MOORE PARK

PROJECT No:	86529.00
DRAWING No:	G101
REVISION:	0





Locality Plan

NOTE:
1: Base image from Nearmap.com (Dated 4.3.2019)
2: Test locations are approximate only and are shown with reference to existing features.

LEGEND

- Geotechnical borehole (2018)
- Contamination borehole (2018)
- **W** Groundwater well
- Previous Borehole (Douglas Partners)
- Previous Borehole (Arup, 1985)
- Previous CPT (Arup, 1985)
- Geotechnical borehole (DP, 2019)
- Contammination borehole (DP, 2019)
- A A' Geotechnical Cross Section A-A'
- 25 Interpreted Top of Rock Surface RL (m, AHD)

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Lendlease Building Pty Ltd		TITLE: **Interpreted Rock Levels** Sydney Football Stadium Redevelopment MOORE PARK
OFFICE: Sydney	DRAWN BY: PSCH	
SCALE: 1:1500 @ A3	DATE: 4.4.2019	

PROJECT No:	86529.00
DRAWING No:	G102
REVISION:	0

A

A'

Gate 1
Entrance

Rugby
Australia
Building

.G6
Offset - 11.7m

C1 Offset 17.4m

.G7 Offset 17.5m

BH102
Offset – 26.7m

C4
Offset 14.3m

A5
Offset - 5.3m

BH104A
Offset – 27.3m

.A6
Offset - 10.5m

FILLING

SAND

CLAY,
SANDY CLAY,
CLAYEY SAND

SANDSTONE
L-M-H

Approximate
Water Level

Bottom Depth
6 m

Bottom Depth
16.05 m

Bottom Depth
14.66 m

Bottom Depth
15.15 m

Bottom Depth
13.06 m

Bottom Depth
6.1 m

Bottom Depth
26.6 m

refusal

ELEVATION (AHD)

DISTANCE ALONG PROFILE (m)

LEGEND

- Core Loss
- Asphaltic Concrete
- Clay
- Clayey Sand
- Clayey Silt
- Concrete
- Filling
- Sand
- Sandstone
- Sandstone coarse grained
- Sandy Clay
- Siltstone
- Silty Clay
- Silty Sand

NOTE:

1. Subsurface conditions are accurate at borehole locations. Variations in subsurface conditions may occur between test locations.
2. Interpreted strata boundaries are approximate and should be used as a guide only.
3. Summary logs only. Should be read in conjunction with detailed logs.

ROCK STRENGTH
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH Very High

SOIL CONSISTENCY
vs - very soft
s - soft
f - firm
st - stiff
vst - very stiff
h hard
vl - very loose
l - loose
md - medium dense
d - dense
vd - very dense

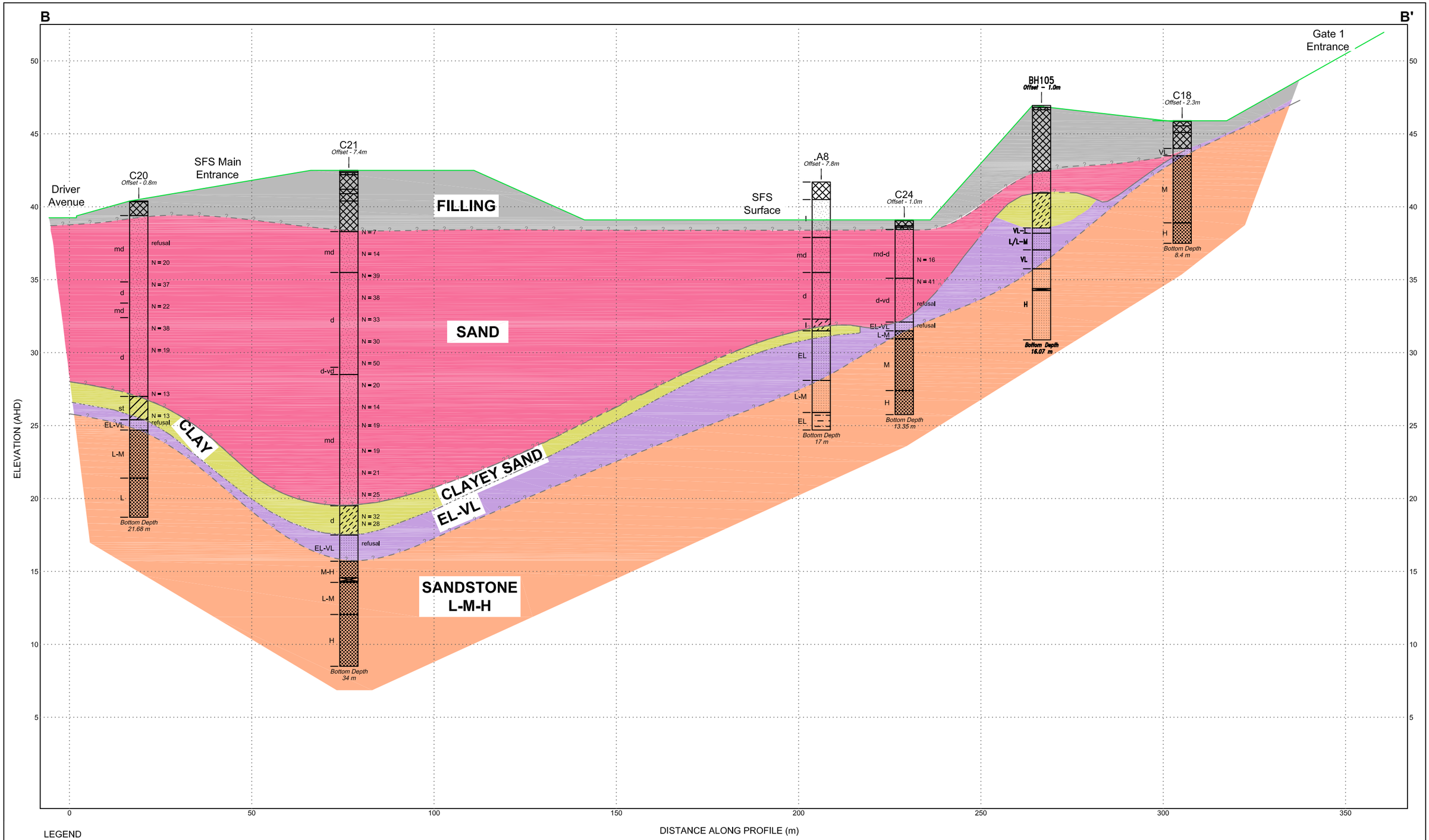
TESTS / OTHER
N - Standard penetration test value
- Water level
- Inferred Geology

Horizontal Scale (metres)

Vertical Exaggeration = 4.0

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Lendlease Building Pty Ltd		TITLE: **Interpteted Geotechnical Cross Section A-A'**	PROJECT No: 86529.00
OFFICE: Sydney	DRAWN BY: PSCH	**Sydney Football Stadium Redevelopment**	DRAWING No: G103
SCALE: 1:1000 (H) 1:250 (V) @ A3	DATE: 4.4.2019	**MOORE PARK**	REVISION: 0



LEGEND

- Core Loss
- Asphaltic Concrete
- Clay
- Clayey Sand
- Clayey Silt
- Concrete
- Filling
- Sand
- Sandstone
- Sandstone coarse grained
- Sandy Clay
- Siltstone
- Silty Clay
- Silty Sand

NOTE:

1. Subsurface conditions are accurate at borehole locations. Variations in subsurface conditions may occur between test locations.
2. Interpreted strata boundaries are approximate and should be used as a guide only.
3. Summary logs only. Should be read in conjunction with detailed logs.

ROCK STRENGTH
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L - Low
M - Medium
H - High
VH Very High

SOIL CONSISTENCY
vs - very soft
s - soft
f - firm
st - stiff
vst - very stiff
h hard
vl - very loose
l - loose
md - medium dense
d - dense
vd - very dense

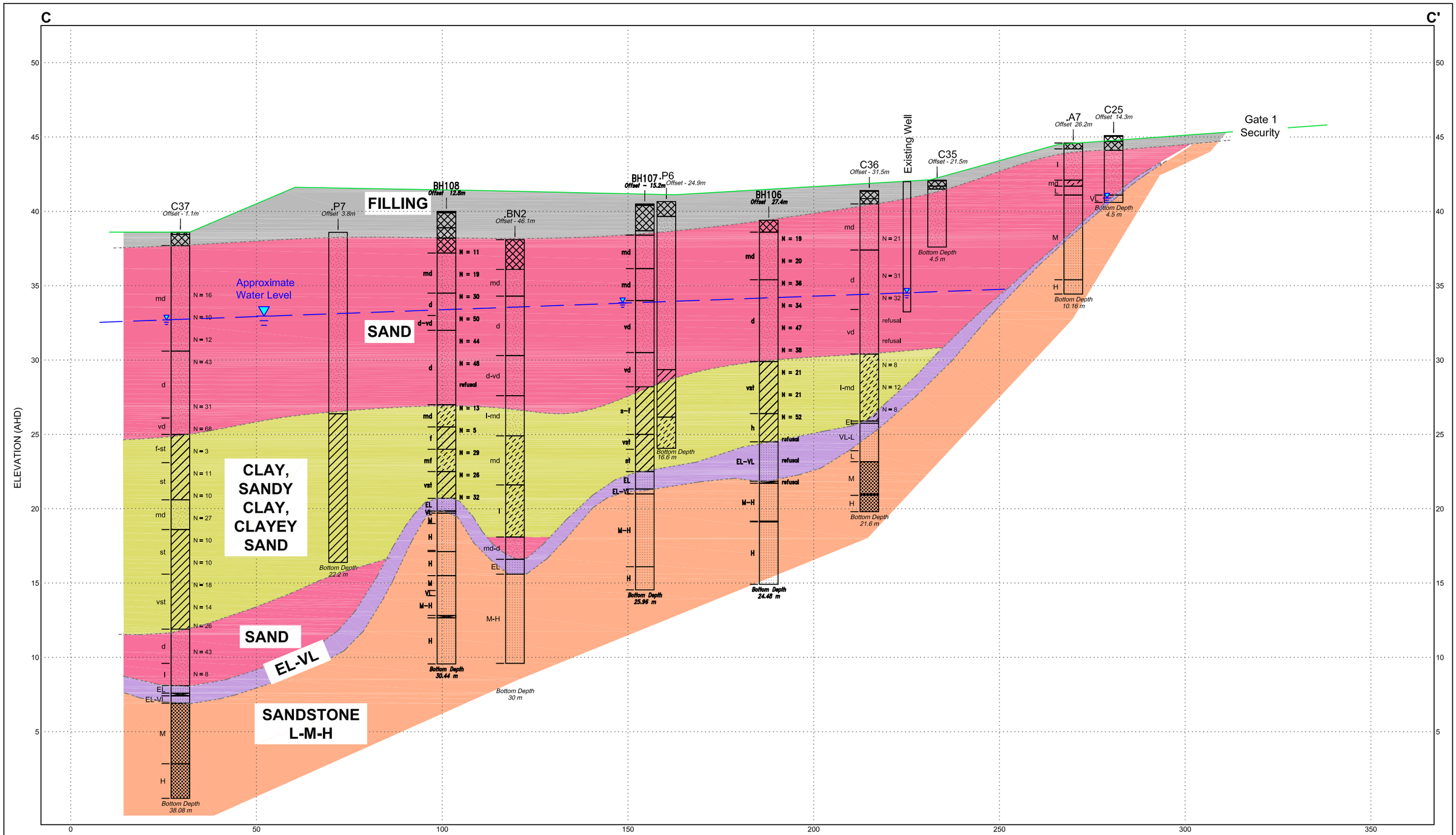
TESTS / OTHER
N - Standard penetration test value
Water level
Inferred Geology

Horizontal Scale (metres) 0 20

Vertical Exaggeration = 4.0

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Lendlease Building Pty Ltd		TITLE: **Interpteted Geotechnical Cross Section B-B'**	PROJECT No: 86529.00
OFFICE: Sydney	DRAWN BY: PSCH	**Sydney Football Stadium Redevelopment**	DRAWING No: G104
SCALE: 1:1000 (H) 1:250 (V) @ A3	DATE: 4.4.2019	**MOORE PARK**	REVISION: 0



LEGEND

- Core Loss
- Asphaltic Concrete
- Clay
- Clayey Sand
- Clayey Silt
- Concrete
- Filling
- Sand
- Sandstone
- Sandstone coarse grained
- Sandy Clay
- Siltstone
- Silty Clay
- Silty Sand

NOTE:

1. Subsurface conditions are accurate at borehole locations. Variations in subsurface conditions may occur between test locations.
2. Interpreted strata boundaries are approximate and should be used as a guide only.
3. Summary logs only. Should be read in conjunction with detailed logs.

ROCK STRENGTH
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH Very High

SOIL CONSISTENCY
vs - very soft
s - soft
f - firm
st - stiff
vst - very stiff
h hard
vl - very loose
l - loose
md - medium dense
d - dense
vd - very dense

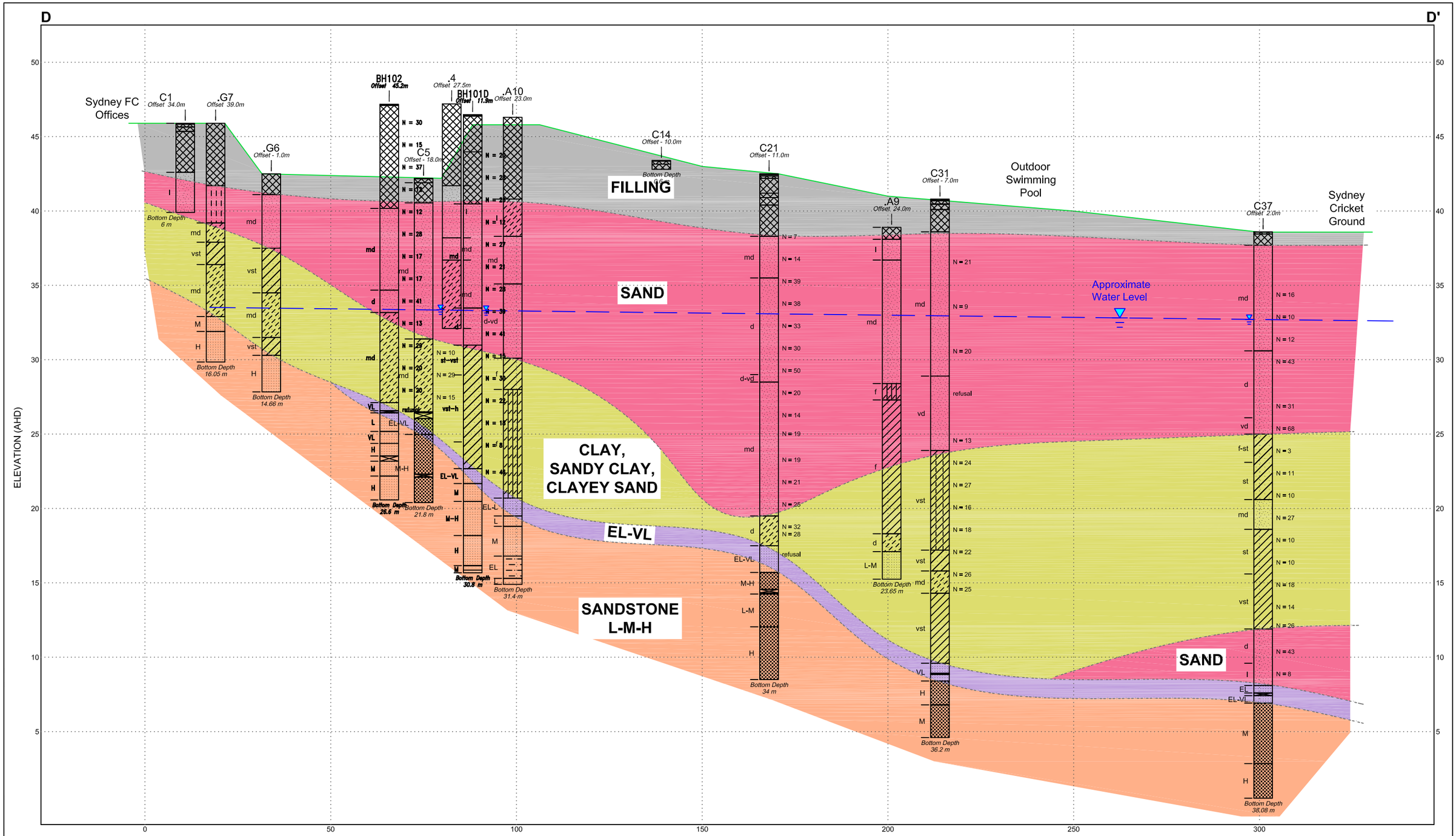
TESTS / OTHER
N - Standard penetration test value
- Water level
- Inferred Geology

Horizontal Scale (metres) 0 20

Vertical Exaggeration = 4.0

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Lendlease Building Pty Ltd		TITLE: **Interpteted Geotechnical Cross Section C-C'**	PROJECT No: 86529.00
OFFICE: Sydney	DRAWN BY: PSCH	**Sydney Football Stadium Redevelopment**	DRAWING No: G105
SCALE: 1:1000 (H) 1:250 (V) @ A3	DATE: 4.4.2019	**MOORE PARK**	REVISION: 0



LEGEND

- Core Loss
- Asphaltic Concrete
- Clay
- Clayey Sand
- Clayey Silt
- Concrete
- Filling
- Sand
- Sandstone
- Sandstone coarse grained
- Sandy Clay
- Siltstone
- Silty Clay
- Silty Sand

NOTE:

1. Subsurface conditions are accurate at borehole locations. Variations in subsurface conditions may occur between test locations.
2. Interpreted strata boundaries are approximate and should be used as a guide only.
3. Summary logs only. Should be read in conjunction with detailed logs.

ROCK STRENGTH
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH Very High

SOIL CONSISTENCY
vs - very soft
s - soft
f - firm
st - stiff
vst - very stiff
h hard
vl - very loose
l - loose
md - medium dense
d - dense
vd - very dense

TESTS / OTHER
N - Standard penetration test value
Water level
Inferred Geology

Horizontal Scale (metres) 0 20

Vertical Exaggeration = 4.0

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Lendlease Building Pty Ltd		TITLE: **Interpteted Geotechnical Cross Section D-D'**	PROJECT No: 86529.00
OFFICE: Sydney	DRAWN BY: PSCH	**Sydney Football Stadium Redevelopment**	DRAWING No: G106
SCALE: 1:1000 (H) 1:250 (V) @ A3	DATE: 4.4.2019	**MOORE PARK**	REVISION: 0

Appendix C

Borehole Logs and Core Photographs

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 45.9 AHD
EASTING: 335823
NORTHING: 6248865
DIP/AZIMUTH: 90°/--

BORE No: C1
PROJECT No: 86276.00
DATE: 17/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
45	0.055	ASPHALT							A/E			
	0.25	FILLING: brown, sandy gravel filling, angular to sub-angular gravel (3-20 mm), coarse grained sand, some silt and clay							A/E			
	0.55	FILLING: brown sand filling, medium to coarse grained with some clay inclusions and sandstone gravels (30-50 mm)							A/E			
44	1	0.3-0.4 m: sandstone cobble and concrete inclusion (150-200 mm)							A/E			
		FILLING: brown, sand filling, some clay, trace of sandstone gravel (5-10 mm)							A/E			
43	2											
	3											
	3.3	SAND: loose, brown, fine to medium grained sand, trace of clay										
42	4								S			3,2,4 N = 6
		4.3 m: becoming light grey										
41	5											
40	6											
	6.0	Bore discontinued at 6.0m - Target depth reached										
39	7											
38	8											
37	9											
36												

RIG: NDD/Geo305 **DRILLER:** Vac Group/LC **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 6.0 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Standpipe installed to 6.0 m (screen 3.0 m to 6.0 m, blank GL to 3.0 m, gravel 3.0 to 6.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.6 AHD
EASTING: 335801
NORTHING: 6248840
DIP/AZIMUTH: 90°/--

BORE No: C2
PROJECT No: 86276.00
DATE: 16/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
	0.09	ASPHALT							
		FILLING: brown, sandy gravel filling, angular to sub-angular road base gravel, medium to coarse sand, trace silt and clay, moist		A/E	0.09 0.1		PID<5		
	0.35	FILLING: dark brown, clay filling, some coarse sand, sandstone gravel and ash, wet		A/E	0.4 0.5		PID<5		
42		0.7 m: brick inclusions 100 mm							
	1			A/E	0.9 1.0		PID<5		1
41	1.6	SAND: brown, medium to coarse grained sand, some clay, moist		A/E	1.6 1.65		PID<5		
		1.7 m: becoming light grey							
	2	2.0		A/E	1.9 2.0		PID<5		2
		Bore discontinued at 2.0m - Target depth reached							
40	3								3
39	4								4
38									

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 2.0 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 47.0 AHD
EASTING: 335858
NORTHING: 6248831
DIP/AZIMUTH: 90°/--

BORE No: C3
PROJECT No: 86276.00
DATE: 11/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
47	0.05	ASPHALT		A/E	0.06 0.07		PID<5		
	0.25	FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse sand, trace of clay							
		FILLING: yellow brown, sandstone gravel and cobble filling, some sandy clay 0.3 m: brick and concrete inclusions (200 mm) 0.5 m: brick fragment (40 mm)		A/E*	0.5 0.6		PID<5		
	0.65	FILLING: grey brown, clayey sand filling, medium to coarse grained, some ironstone and sandstone gravel (10-20 mm), trace of brick fragments (2-3 mm)		A/E	0.9 1.0		PID<5		
46	1								1
		1.5 m: asphalt inclusion 40 mm		A/E	1.5 1.6		PID<5		
45	2	2.0 m: brick inclusions 200 mm							2
	2.2	Bore discontinued at 2.2m - NDD refusal on sandstone gravel and cobbles (60-300 mm)							
44	3								3
43	4								4

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 2.2 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Hand auger refusal @1.0m, unable to sample; *11042018-2-4 duplicate sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 47.1 AHD
EASTING: 335885
NORTHING: 6248836
DIP/AZIMUTH: 90°/--

BORE No: C4
PROJECT No: 86276.00
DATE: 13/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
47	0.06	ASPHALT										
	0.16	FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse grained sand, some silt and clay										
		FILLING: light yellow brown, sandstone cobbles and boulders (60-250 mm), some sandstone gravel and sandy clay										
46	1											
		1.4 m: becoming dark brown, traces of brick fragments (30-60 mm)										
	1.8	Bore discontinued at 1.8m - Refusal at 1.8 m on sandstone gravel and cobble										
45	2											
44	3											
43	4											

RIG: Vac truck **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 1.8 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Hand auger refusal @1.0 m, unable to sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.2 AHD
EASTING: 335771
NORTHING: 6248807
DIP/AZIMUTH: 90°/--

BORE No: C5
PROJECT No: 86276.00
DATE: 19/4/2018
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
42	0.04	ASPHALT							A/E			
	0.3	FILLING: sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse grained sand with trace of silt and clay, moist							A/E			
41	1	FILLING: well compacted, dark brown, clay filling, slightly sandy, with some concrete and ironstone gravel (10-30 mm), moist 0.6 m: ironstone cobble/concrete fragment (100-200 mm)							A/E			
	1.65	0.7 m: brick inclusion (200 mm) 0.75 m: tile inclusion (40 mm)							A/E			
40	2	SAND: medium dense, brown, sand, fine to medium grained, with a trace of clay, moist							A/E			
39	3											
38	4	4.5 m: becoming moist to wet							S			8,11,13 N = 24
37	5	5.0 m: becoming light yellow brown										
36	6	5.5 m: becoming light grey with bands of orange brown with some clay							S			5,9,9 N = 18
35	7								S			5,9,10 N = 19
34	8											
33	9								S			10,11,15 N = 26

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** SI/LS **CASING:** HW to 7.5 m, HQ to 15.7 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 15.7 m, NMLC-coring to 21.8 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.2 AHD
EASTING: 335771
NORTHING: 6248807
DIP/AZIMUTH: 90°/--

BORE No: C5
PROJECT No: 86276.00
DATE: 19/4/2018
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
			EW HW MW SW FS FR		Ex Low Very Low Low Medium High Very High Ex High		0.01 0.05 0.10 0.50 1.00	B - Bedding J - Joint S - Shear F - Fault				
32		SAND: medium dense, brown, sand, fine to medium grained, with a trace of clay, moist *(continued)*							S			18,18,16 N = 34
	10.8											
31	11	CLAYEY SAND: medium dense, light grey, red-brown and orange-brown, fine to medium grained										
									S			5,5,5 N = 10
30	12	12.0 m: becoming medium dense to dense										
									S			7,13,16 N = 29
29	13											
28	14											
									S			4,6,9 N = 15
27	15							Unless otherwise stated all defects are planar rough bedding at 0.5º with clay infill or ironstaining				
	15.7											
26	16	SANDSTONE: extremely low and very low strength, highly weathered, slightly fractured and unbroken, red-brown, medium grained sandstone, some low to medium strength bands						15.72-15.77 m: Cs, 5 mm 15.77m: CORE LOSS: 380mm	C	73	0	
	16.15											PL(A) = 0.23
25	17							17.00-17.08 m: Cs, 80 mm				
	17.22	SANDSTONE: medium then high strength, moderately then slightly weathered, slightly fractured and unbroken, orange brown and grey brown, thickly bedded, medium grained sandstone										PL(A) = 0.68
24	18							18.15-18.19 m: Ds, 40 mm				
								18.68m: J, 45-85º, un ro,fe	C	93	84	PL(A) = 1.41
23	19							19.13m: J, 70º, pl, ro, fe 19.34m: J, 50º, pl, ro, fe				PL(A) = 3.52

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** SI/LS **CASING:** HW to 7.5 m, HQ to 15.7 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 15.7 m, NMLC-coring to 21.8 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.2 AHD
EASTING: 335771
NORTHING: 6248807
DIP/AZIMUTH: 90°/--

BORE No: C5
PROJECT No: 86276.00
DATE: 19/4/2018
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
22	20.09	SANDSTONE: medium then high strength, moderately then slightly weathered, slightly fractured and unbroken, orange brown and grey brown, thickly bedded, medium grained sandstone (continued)						19.89m: CORE LOSS: 200mm 20.09-20.18 m: J, 80°, pl, ro, cly un 20.18-20.33 m: J, 70°, pl, ro, cly un	C	93	84	
21									C	100	99	PL(A) = 1.69 PL(A) = 1.54
	21.8	Bore discontinued at 21.8m - Target depth reached										
20	22											
19	23											
18	24											
17	25											
16	26											
15	27											
14	28											
13	29											

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** SI/LS **CASING:** HW to 7.5 m, HQ to 15.7 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 15.7 m, NMLC-coring to 21.8 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 46.9 AHD
EASTING: 335820
NORTHING: 6248798
DIP/AZIMUTH: 90°/--

BORE No: C6
PROJECT No: 86276.00
DATE: 11/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.05	ASPHALT							
		FILLING: brown, sandy gravel filling, angular to sub-angular, roadbase gravel, medium to coarse sand, trace of clay		A/E	0.12 0.13		PID<5		
	0.28	FILLING: grey-brown, clayey sand filling, medium to coarse grained, slightly gravelly, roadbase and sandstone gravel (4-100 mm)		A/E	0.4 0.5		PID<5		
		0.5 m: brick inclusion (70 mm)							
	1			A/E	0.9 1.0		PID<5		1
		1.3 m: concrete and brick inclusions 80-100 mm							
	1.4	FILLING: yellow-brown, sandstone and concrete cobble filling, some sandy clay, trace of ash		A/E	1.4 1.5		PID<5		
45	1.8	Bore discontinued at 1.8m - Refusal on sandstone cobble							
	2								2
44	3								3
43	4								4
42									

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 1.8m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 47.0 AHD
EASTING: 335836
NORTHING: 6248820
DIP/AZIMUTH: 90°/--

BORE No: C7
PROJECT No: 86276.00
DATE: 16/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
47	0.03	ASPHALT							A/E			
	0.14	FILLING: brown, sandy gravel, angular to sub-angular roadbase gravel, medium to coarse grained sand, trace of silt and clay, moist										
		FILLING: light brown, sandstone and gravel filling (10-20 mm), some clayey sand, moist (ripped sandstone)										
	0.75	FILLING: dark brown, sand filling, medium to coarse grained, some concrete fragments (10-30 mm), trace of clay and brick fragments (2-4 mm), moist										
46	1								A/E			
	1.45	Bore discontinued at 1.45m - Non-destructive drilling refusal on concrete										
45	2											
44	3											
43	4											

RIG: Vac truck **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 1.45 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Hand auger refusal @0.5 m, unable to sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 47.4 AHD
EASTING: 335972
NORTHING: 6248801
DIP/AZIMUTH: 90°/--

BORE No: C8
PROJECT No: 86276.00
DATE: 6/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
47	0.1	ASPHALT							
		FILLING: brown, sandy gravel, coarse sand, angular to sub-angular, roadbase gravel, some silt, damp		A/E	0.1 0.11		PID<5		
	0.25	FILLING: brown, sand filling, medium to coarse grained, some clay, trace of roadbase gravel (5-10 mm), concrete inclusions (5-10 mm), moist		A/E	0.4 0.5		PID<5		
		0.9 m: brick fragments (5-20 mm)		A/E	0.9 1.0		PID<5		
46	1.3	FILLING: red-brown and light-grey, clay filling, some fine sand and ironstone gravel (10-20 mm), moist		S	1.45		3,8,6 N = 14		
				A/E	1.65 1.75		PID<5		
	1.8	FILLING: red-brown, sand filling, medium grained, some ironstone gravel (10-20 mm) and clay, moist		A/E	1.9 2.0		PID<5		
45	2.1	SAND: medium dense, brown, fine to medium grained sand, trace of clay, moist 2.2 m: becoming light grey brown							
		2.4 m: rootlet observed		A/E	2.4 2.5		PID<5		
				S	3.0		3,4,7 N = 11		
44	3.45	Bore discontinued at 3.45m - Target depth reached			3.45				
43									

RIG: DT250 **DRILLER:** GM **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Solid flight auger to 3.45 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 46.6 AHD
EASTING: 335805
NORTHING: 6248790
DIP/AZIMUTH: 90°/--

BORE No: C9
PROJECT No: 86276.00
DATE: 16/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.05	ASPHALT		A/E	0.07 0.1		PID<5		
	0.25	FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel (10-20 mm), medium to coarse grained sand, trace of silt and clay							
		FILLING: light brown, sandstone gravel and cobble filling (20-100 mm) with some coarse grained sand, trace of clay, moist 0.6 m: sandstone boulder		A/E	0.4 0.5		PID<5		
	0.9	Bore discontinued at 0.9m - Refusal on sandstone boulders							
45	1								
44	2								
43	3								
42	4								

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 0.9 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.0 AHD
EASTING: 335857
NORTHING: 6248783
DIP/AZIMUTH: 90°/--

BORE No: C10
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.05	TOPSOIL: light grey and brown, topsoil, fine to medium grained sand, trace of silt		A/E	0.01 0.05		PID<5		
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist							
	0.4	FILLING: dark grey, angular to sub-angular igneous gravel (5-10mm), trace of sand, moist							
	0.5			A/E	0.5		PID<5		
		FILLING: brown, medium to coarse grained sand filling, some clay, trace of shale, brick and sandstone gravel (3-10 mm), moist		A/E	0.8		PID<5		
	0.85	SAND: yellow-brown, fine to medium grained sand, trace of silt, moist			0.85				
38	1			A/E	1.4		PID<5		1
	1.5	Bore discontinued at 1.5m - Target depth reached			1.5				
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.2 AHD
EASTING: 335884
NORTHING: 6248783
DIP/AZIMUTH: 90°/--

BORE No: C11
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.075	TOPSOIL: light grey and dark brown topsoil, fine to medium grained sand, some silt, moist							
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist to wet		A/E	0.3 0.4		PID<5		
	0.5								
	0.6	FILLING: dark grey, angular to sub-angular, igneous gravel (5-10mm) with some medium grained sand, moist to wet		A/E	0.7		PID<5		
	0.8	FILLING: dark brown, medium to coarse grained sand filling, some silt, moist			0.8				
38	1	SAND: yellow brown, fine to medium grained sand, trace of silt, moist							1
				A/E	1.4		PID<5		
	1.5	Bore discontinued at 1.5m - Target depth reached			1.5				
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335928
NORTHING: 6248783
DIP/AZIMUTH: 90°/--

BORE No: C12
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.06	TOPSOIL: light grey and dark brown topsoil, fine to medium grained sand, some silt, moist							
	0.3	FILLING: brown, medium to coarse grained sand filling, trace of silt, moist		A/E	0.2 0.3		PID<5		
		FILLING: dark grey, angular to sub-angular, igneous gravel (10-15 mm), trace of fine grained sand, moist to wet		A/E	0.4 0.5		PID<5		
	0.8	SAND: yellow-brown, fine to medium grained sand, trace of silt, moist		A/E	0.9 1.0		PID<5		
38	1								1
	1.4	Bore discontinued at 1.4m - Target depth reached		A/E	1.3 1.4		PID<5		
	2								2
37									
	3								3
36									
	4								4
35									

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.4 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 46.4 AHD
EASTING: 335993
NORTHING: 6248777
DIP/AZIMUTH: 90°/--

BORE No: C13
PROJECT No: 86276.00
DATE: 6/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.1	ASPHALT							
	0.2	FILLING: brown, gravelly sand, medium to coarse grained sand, angular to sub-angular, roadbase gravel, moist		A/E	0.1 0.11		PID<5		
		FILLING: dark brown, sand filling, medium to coarse grained, some clay, brick fragments (2-10 mm) and ash, moist		A/E	0.4 0.5		PID<5		
	0.85	FILLING: brown, sand filling, medium to coarse grained, some clay, trace of sandstone and ironstone gravel (5-10 mm), moist		A/E	0.9 1.0		PID<5		
45	1			S			13,20,23 N = 43		1
	1.3	SAND: dense, grey-brown, medium grained, some clay, moist			1.45				
				A/E	1.5 1.6		PID<5		
				A/E	1.9		PID<5		
	2 2.0	Bore discontinued at 2.0m - Target depth reached			2.0				2
44	3								3
43	4								4
42									

RIG: DT250 **DRILLER:** GM **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 2.0 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 43.4 AHD
EASTING: 335779
NORTHING: 6248743
DIP/AZIMUTH: 90°/--

BORE No: C14
PROJECT No: 86276.00
DATE: 10/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
43	0.05	ASPHALT							A/E			
	0.25	FILLING: gravelly sand filling, medium to coarse grained sand, angular to sub-angular gravel, moist										
		FILLING: yellow-brown and light grey, sandstone cobbles and boulders, some sandy clay, moist										
	0.6	Bore discontinued at 0.6m - Refusal on sandstone boulders										
42	1											
41	2											
40	3											
39	4											

RIG: Vac truck **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 0.6 m

WATER OBSERVATIONS: No free ground water observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335857
NORTHING: 6248744
DIP/AZIMUTH: 90°/--

BORE No: C15
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.07	TOPSOIL: light grey and brwon, topsoil, fine to medium grained sand, some silt							
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist to wet		A/E	0.3		PID<5		
	0.35	FILLING: dark grey, angular to sub-angular, igneous gravel (5-10 mm), some fine grained sand, moist			0.35				
	0.5	FILLING: brown, medium to coarse grained sand filling with some silt and ash, moist 0.6 m: timber inclusion 50 mm		A/E	0.7 0.8		PID<5		
	0.9	SAND: yellow-brown, fine to medium grained sand, trace of silt, moist							
38	1			A/E	1.4		PID<5		1
	1.5	Bore discontinued at 1.5m - Target depth reached			1.5				
	2								2
37									
	3								3
36									
	4								4
35									

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.2 AHD
EASTING: 335871
NORTHING: 6248763
DIP/AZIMUTH: 90°/--

BORE No: C16
PROJECT No: 86276.00
DATE: 8/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.07	TOPSOIL: brown, sand topsoil, fine to medium grained, some silt, moist		A/E	0.07 0.1		PID<5		
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist							
		0.5-0.55 m: with some igneous gravel (5-10 mm)		A/E	0.5 0.6		PID<5		
	0.6	FILLING: light yellow, fine to medium grained sand filling, trace of clay, moist		A/E	0.65 0.75		PID<5		
	0.7	FILLING: grey, sand filling, fine to coarse grained, slightly clayey, some sandstone gravel (4-40 mm), clay, trace of brick fragments (3-10 mm), tile (10 mm) and ash, moist to wet		A/E	0.9 1.0		PID<5		
38	1								1
				A/E	1.4 1.5		PID<5		
	1.7	Bore discontinued at 1.7m - Refusal on sandstone							
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.7 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335928
NORTHING: 6248755
DIP/AZIMUTH: 90°/--

BORE No: C17
PROJECT No: 86276.00
DATE: 8/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.06	TOPSOIL: yellow-brown and brown, sand topsoil, fine to medium grained with some silt, wet							
		FILLING: brown, sand filling, medium to coarse grained with a trace of silt and fine grained sand, wet		A/E*	0.25 0.35		PID<5		
	0.45	0.4-1.0 m: orange-brown with some clay							
	0.5	FILLING: dark grey, angular to sub-angular, igneous gravel (5-10 mm), wet		A/E	0.5 0.55		PID<5		
	0.66	FILLING: brown, sand filling, medium to coarse grained, some igneous and ironstone gravels (5-10 mm), trace of silt, wet		A/E	0.65 0.75		PID<5		
38	1	SAND: yellow-brown, fine to medium grained sand, trace of silt, wet		A/E	1.0		PID<5		1
	1.2	Bore discontinued at 1.2m - Target depth reached			1.2				
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.2 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS: *'B' duplicate sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 45.9 AHD
EASTING: 336005
NORTHING: 6248741
DIP/AZIMUTH: 90°/--

BORE No: C18
PROJECT No: 86276.00
DATE: 12/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
45	0.05	ASPHALT							A/E			
	0.35	FILLING: brown sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse sand, with a trace of clay							A/E			
	0.8	FILLING: brown sand filling, medium to fine grained, some sandstone gravel and cobbles (20-200 mm), wet							A/E			
44	1	FILLING: grey brown clayey sand filling, medium to fine grained with some sandstone and roadbase gravels (10-20 mm)							A/E			
	1.9	SANDSTONE: very low strength, yellow-brown, fine grained sandstone						Unless otherwise stated all defects are planar rough bedding at 0-5° with clay infill or ironstaining				
43	2.4	SANDSTONE: medium strength, moderately weathered, unbroken, orange-brown, fine to medium grained sandstone							C	100	100	PL(A) = 0.5 PL(A) = 0.4
42	4											
41	5							4.73m: J, 15°, pl, ti, cbs 4.75m: B, 0°, cbs cly, 10 mm				PL(A) = 0.7 PL(A) = 0.8
40	6								C	100	93	
39	7											PL(A) = 0.8
	7.0	SANDSTONE: high strength, slightly weathered, slightly fractured, light grey and red-brown, medium grained sandstone						7.50-7.54 m: Fragmented	C	100	94	PL(A) = 1.97
38	8							8.06-8.08 m: Fragmented 8.24m: J, 15°, pl, ro, fe				PL(A) = 1.52 PL(A) = 1.1
	8.4	Bore discontinued at 8.4m - Target depth reached										
37	9											
36												

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HQ to 2.4 m

TYPE OF BORING: Non-destructive drilling to 2.4 m, NMLC-coring to 8.4 m

WATER OBSERVATIONS: No free groundwater observed whilst non-destructive drilling

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 47.1 AHD
EASTING: 336017
NORTHING: 6248726
DIP/AZIMUTH: 90°/--

BORE No: C19
PROJECT No: 86276.00
DATE: 18/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
47	0.07	ASPHALT							
		FILLING: brown, sandy gravel filling, angular to sub-angular, road base gravel, medium to coarse grained sand, trace of silt and clay, damp, (possibly stabilised)							
	0.45	Bore discontinued at 0.45m - Refusal on roadbase							
46	1								1
45	2								2
44	3								3
43	4								4

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: Non-destructive drilling to 0.45 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.4 AHD
EASTING: 335720
NORTHING: 6248715
DIP/AZIMUTH: 90°/--

BORE No: C20
PROJECT No: 86276.00
DATE: 9/4/2018
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing			
			EW HW MW SW FS FR		Ex Low / Very Low / Low / Medium / High / Very High / Ex High		0.01 / 0.05 / 0.10 / 0.50 / 1.00	B - Bedding J - Joint S - Shear F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments
40	0.05	ASPHALT							A/E			
		FILLING: brown, sandy gravel filling, fine to coarse sand, angular to sub angular roadbase gravel, some clay, humid							A/E			
	1 1.0	0.25 m: brick inclusions (100x200 mm)							A/E			
39		SAND: aparently medium dense, orange-brown, medium grained sand, with a trace of clay							A/E			
	2											
38									S			Terminated
	3											
37		3.8 m: becoming light yellow-brown										
	4								S			7,9,11 N = 20
36												
	5											
35		5.55 m: becoming dense and brown							S			14,17,20 N = 37
	6											
34												
	7	7.0 m: becoming medium dense, light brown and wet							S			6,9,13 N = 22
33												
	8	8.0 m: becoming dense, light grey										
32									S			16,22,16 N = 38
	9											
31												

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 15.7 m

TYPE OF BORING: Solid flight auger to 1.0 m, non-destructive drilling to 3.0 m, solid flight auger to 7.0 m, rotary to 15.7 m, NMLC-coring to 21.68 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.4 AHD
EASTING: 335720
NORTHING: 6248715
DIP/AZIMUTH: 90°/--

BORE No: C20
PROJECT No: 86276.00
DATE: 9/4/2018
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
30		SAND: aparently medium dense, orange-brown, medium grained sand, with a trace of clay *(continued)*							S			7,9,10 N = 19
29	11											
28	12	12.0 m: becoming light grey, slightly clayey										
27	13								S			4,4,9 N = 13
	13.4	SANDY CLAY: stiff, light grey, sandy clay, fine to medium sand										
26	14							Unless otherwise stated all fractures are 0-5° planar rough bedding with clay smear or iron staining				
25	15								S			10,7,6 N = 13
	15.0	SANDSTONE: extremely to very low strength, light grey-brown, fine grained sandstone							S			0 refusal
	15.7	SANDSTONE: low to medium then medium strength, highly and moderately weathered then fresh-stained, slightly fractured and unbroken, orange-brown and light grey, medium to coarse grained sandstone										PL(A) = 0.26
24	16											PL(A) = 0.58
23	17								C	100	99	PL(A) = 0.59
22	18							17.60-17.63 m: Ds, 30 mm				PL(A) = 0.62
	19							18.83-18.86 m: Cs, 30 mm				
	19.0	SANDSTONE: low strength, fresh stained, unbroken, light grey and orange-brown, medium to coarse grained sandstone with very low strength bands							C	100	97	PL(A) = 0.2
21												

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 15.7 m

TYPE OF BORING: Solid flight auger to 1.0 m, non-destructive drilling to 3.0 m, solid flight auger to 7.0 m, rotary to 15.7 m, NMLC-coring to 21.68 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.4 AHD
EASTING: 335720
NORTHING: 6248715
DIP/AZIMUTH: 90°/--

BORE No: C20
PROJECT No: 86276.00
DATE: 9/4/2018
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
20		SANDSTONE: low strength, fresh stained, unbroken, light grey and orange-brown, medium to coarse grained sandstone with very low strength bands *(continued)*						20.59-20.67 m: Ds, 80 mm	C	100	97	
19	21											
	21.68	Bore discontinued at 21.68m - Target depth reached										
18	22											
17	23											
16	24											
15	25											
14	26											
13	27											
12	28											
11	29											

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 15.7 m

TYPE OF BORING: Solid flight auger to 1.0 m, non-destructive drilling to 3.0 m, solid flight auger to 7.0 m, rotary to 15.7 m, NMLC-coring to 21.68 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.5 AHD
EASTING: 335778
NORTHING: 6248714
DIP/AZIMUTH: 90°/--

BORE No: C21
PROJECT No: 86276.00
DATE: 9 - 11/4/2018
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding, J - Joint, S - Shear, F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
42	0.06	ASPHALT										
	0.15	CONCRETE							A/E			
	0.3	FILLING: dark brown, sandy gravel, medium to coarse grained sand, angular to sub-angular roadbase gravel, some clay							A/E			
41	1	FILLING: grey brown, sand filling, fine to medium grained, some sandstone gravel and cobbles, (10-200 mm), and clay							A/E			
	1.6	FILLING: brown, sand filling, medium grained, some sandstone gravel, (5-10 mm)							A/E			
40	2	FILLING: dark grey, silty clay filling, some sandstone gravel, (2.5-5 mm), trace of fine sand and rootlets										
	2.1	FILLING: brown, sand filling, medium grained with some sandstone gravel, (2-30 mm)										
39	3											
	4											
	4.2	SAND: medium dense, pale grey-brown, fine to medium grained sand, moist							S			1,3,4 N = 7
38	5											
37									S			3,7,7 N = 14
	6											
36	7											
	7.0	SAND: dense, pale grey, fine grained sand with some silt, moist							S			8,14,25 N = 39
35	8											
34									S			8,14,24 N = 38
	9											
33												

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 27.0 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 27.0 m, NMLC-coring to 34.0 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.5 AHD
EASTING: 335778
NORTHING: 6248714
DIP/AZIMUTH: 90°/--

BORE No: C21
PROJECT No: 86276.00
DATE: 9 - 11/4/2018
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding, J - Joint, S - Shear, F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
32		SAND: dense, pale grey, fine grained sand with some silt, moist *(continued)*							S			8,14,19 N = 33
	11											
31									S			8,14,16 N = 30
	12											
30												
	13								S			18,23,27 N = 50
29		13.5 m: becoming cemented, dense to very dense sand										
	14 14.0	SAND: medium dense, pale yellow-brown, fine to medium grained sand, slightly silty							S			7,9,11 N = 20
28												
	15											
27												
	16								S			5,7,7 N = 14
26												
	17								S			7,7,12 N = 19
25												
	18											
24												
	19								S			5,8,11 N = 19
23												

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 27.0 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 27.0 m, NMLC-coring to 34.0 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.5 AHD
EASTING: 335778
NORTHING: 6248714
DIP/AZIMUTH: 90°/--

BORE No: C21
PROJECT No: 86276.00
DATE: 9 - 11/4/2018
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
22		SAND: medium dense, pale yellow-brown, fine to medium grained sand, slightly silty *(continued)*										
									S			5,9,12 N = 21
21												
									S			9,10,15 N = 25
20	23.0	CLAYEY SAND: dense, brown, medium grained clayey sand										
									S			10,14,18 N = 32
19									S			11,13,15 N = 28
18	25.0	SANDSTONE: extemely to very low strength, pale grey-brown, fine grained sandstone										
									S			25/145 refusal
17								Unless otherwise stated rock is fractured along rough planar bedding , dipping at 0-10º				
16	26.8	SANDSTONE: high then medium strength, highly and highly to moderately weathered, slightly fractured, red-brown then brown, medium grained sandstone with some very low strength bands						26.95m: B, 0º, fe 27.25-27.30 m: Ds 27.36m: B, 5º ,fe, cly 10 mm	C	83	70	~~PL(A) = 1.37~~ PL(A) = 0.71
15	28.17							27.94m: CORE LOSS: 230mm				
14	28.25	SANDSTONE: low and low to medium strength, highly to moderately weathered, slightly fractured, pale grey brown, medium grained sandstone, with some very low strength bands						28.17-28.23 m: DS 29.12m: B, 10º, Cbs co, 1 mm 29.38m: B, 0º, fe	C	100	85	PL(A) = 0.4 PL(A) = 0.3
13												

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 27.0 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 27.0 m, NMLC-coring to 34.0 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.5 AHD
EASTING: 335778
NORTHING: 6248714
DIP/AZIMUTH: 90°/--

BORE No: C21
PROJECT No: 86276.00
DATE: 9 - 11/4/2018
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
12	30.45	SANDSTONE (continued)						29.9m: B, 0°, fe, cly, 5 mm 30.08m: B, 10°, fe, cly 5 mm 30.32m: B, 0°, cly 5 mm 30.46m: B, 0°, cly 3 mm	C	100	85	PL(A) = 0.1 PL(A) = 1.47
		SANDSTONE: high strength, fresh, slightly fractured and unbroken, pale grey medium grained sandstone										
	31							31.05m: B, 10°, cly vn, ti				
11												PL(A) = 1.66
	32							31.72m: B, 10°, cly vn, ti				
10									C	100	100	
	33							32.67m: B, 5°, cly 2 mm				PL(A) = 2.21
9												PL(A) = 1.56
	34							33.67-33.67 m: J, 70°, pl, ro, cln				
	34.0	Bore discontinued at 34.0m - Target depth reached										
8	35											
7	36											
6	37											
5	38											
4	39											
3												

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 27.0 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 27.0 m, NMLC-coring to 34.0 m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335860
NORTHING: 6248711
DIP/AZIMUTH: 90°/--

BORE No: C22
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.06	TOPSOIL: light grey and brown, topsoil, fine to medium grained sand, some silt, trace of rootlets, moist							
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist to wet		A/E	0.2 0.3		PID<5		
	0.4	FILLING: dark grey, angular to sub-angular, ingeous gravel (5-10 mm), some coarse grained sand, moist to wet		A/E	0.4 0.5		PID<5		
	0.55	FILLING: brown, medium to coarse grained sand, some silt, trace of sandstone and ironstone gravel (10-30 mm) and ash, moist to wet		A/E	0.7		PID<5		
	0.8	SAND: yellow-brown, fine to medium grained sand, trace of clay, moist			0.8				
38	1			A/E	1.4		PID<5		1
	1.5	Bore discontinued at 1.5m - Target depth reached			1.5				
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.2 AHD
EASTING: 335871
NORTHING: 6248732
DIP/AZIMUTH: 90°/--

BORE No: C23
PROJECT No: 86276.00
DATE: 9/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.065	TOPSOIL: brown, sand topsoil, fine to medium grained, some silt, moist		A/E*	0.07 0.1		PID<5		
		FILLING: brown, medium to coarse grained sand, trace of silt, moist							
	0.4	FILLING: dark grey, igneous gravel (5-10 mm), wet		A/E	0.4 0.5		PID<5		
	0.55								
	0.6	FILLING: dark grey, mottled light grey, clay filling, some brick fragments, and sandstone gravel (10-20 mm), moist to wet		A/E	0.6 0.7		PID<5		
	0.9	FILLING: brown, fine to medium grained sand filling, trace of silt, sandstone gravel (10-20 mm) and brick fragments (10-20 mm), moist to wet							
38	1	SAND: light yellow-brown, fine to medium grained sand, trace of silt, moist to wet		A/E	1.0 1.1		PID<5		1
				A/E	1.4		PID<5		
	1.5	Bore discontinued at 1.5m - Target depth reached			1.5				
	2								2
37									
	3								3
36									
	4								4
35									

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS: *'F' duplicate sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335929
NORTHING: 6248735
DIP/AZIMUTH: 90°/--

BORE No: C24
PROJECT No: 86276.00
DATE: 8/5/2018
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
			EW HW MW SW FS FR		Ex Low / Very Low / Low / Medium / High / Very High / Ex High		0.01 / 0.05 / 0.10 / 0.50 / 1.00	B - Bedding J - Joint S - Shear F - Fault				
39	0.05	TOPSOIL/FILLING: yellow-brown and brown, sand topsoil filling, fine to medium grained, some silt, wet							E			
	0.4											
	0.5	FILLING: brown, medium to coarse, sand filling, trace of silt, wet							E			
	0.65											
38	1	FILLING: dark grey, angular to sub-angular, igneous gravel filling (5-10 mm), some medium to coarse sand, wet							A/E			
		FILLING: grey-brown, fine to medium grained sand, some igneous gravel (20-40 mm), trace silt, moist							E			
37	2	0.6 m: brick inclusion (100 mm)										
		SAND: medium dense to dense, yellow-brown, fine to medium grained sand, trace of silt, moist to wet							S			3,6,10 N = 16
36	3	3.6 m: some silt, moist										
35	4	4.0 SAND: dense then very dense, pale brown, fine to medium grained sand with some silt							S			10,16,25 N = 41
34	5											
									S			13,25/145 refusal
33	6											
32	7	7.0 SANDSTONE: extremely low to very low strength, red-brown, medium grained sandstone						Unless otherwise stated rock is fractured along rough planar bedding dipping at 0-10°	S			12,12,25/140 refusal
	7.6	SANDSTONE: low to medium strength, highly weathered, slightly fractured then unbroken, red-brown, medium to coarse grained sandstone						7.60-7.68 m: fg 7.78m: B, 5°, fe, cly 5 mm 7.9m: J, 60°, pl, ro, fe	C	100	97	PL(A) = 0.35
31	8	8.15 SANDSTONE: medium strength, moderately weathered then fresh, slightly fractured and unbroken, red-brown then pale grey, medium to coarse grained sandstone										PL(A) = 0.84
30	9							9.75-9.90 m: B (x2), 5°,				PL(A) = 0.88

RIG: Hand auger/Scout 1 **DRILLER:** LS/GM **LOGGED:** SI/LS **CASING:** HW to 2.0 m, HQ to 7.6 m

TYPE OF BORING: Hand auger to 1.4 m, solid flight auger to 2.0 m, rotary to 7.6 m, NMLC-coring to 13.35 m

WATER OBSERVATIONS: Free groundwater observed at 1.8 m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335929
NORTHING: 6248735
DIP/AZIMUTH: 90°/--

BORE No: C24
PROJECT No: 86276.00
DATE: 8/5/2018
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
29		SANDSTONE: medium strength, moderately weathered then fresh, slightly fractured and unbroken, red-brown then pale grey, medium to coarse grained sandstone *(continued)*						cly vn, ti	C	100	97	PL(A) = 0.77
28	11							10.92-12.10 m: J, 85°-90°, un, ro, cln 11.30-12.10 m: cs				PL(A) = 0.83
	11.7	SANDSTONE: high strength, fresh, slightly fractured, pale grey, medium grained sandstone						11.62m: J (x3), 85°, un, ro, cln	C	100	99	
27	12							12.15-13.35 m: J, 85°, un, ro,cln				PL(A) = 1.87
26	13							12.85m: B, 5°, cly vn				PL(A) = 1.1
	13.35	Bore discontinued at 13.35m - Target depth reached										
25	14											
24	15											
23	16											
22	17											
21	18											
20	19											

RIG: Hand auger/Scout 1 **DRILLER:** LS/GM **LOGGED:** SI/LS **CASING:** HW to 2.0 m, HQ to 7.6 m

TYPE OF BORING: Hand auger to 1.4 m, solid flight auger to 2.0 m, rotary to 7.6 m, NMLC-coring to 13.35 m

WATER OBSERVATIONS: Free groundwater observed at 1.8 m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 45.1 AHD
EASTING: 336010
NORTHING: 6248705
DIP/AZIMUTH: 90°/--

BORE No: C25
PROJECT No: 86276.00
DATE: 12/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
45	0.05	ASPHALT										
		FILLING: light grey, sandy gravel filling, fine to medium grained sand, angular to sub-angular gravel (10-20 mm), with some concrete and brick fragments (10-40 mm), trace of clay and silt							A/E			
	0.4	FILLING: yellow brown, sand filling, fine to medium grained, slightly clayey 0.5 m: with some brick, concrete and sandstone inclusions (20-50 mm)										
44	1.0	SAND: yellow brown, sand, fine to medium grained, some clay							A/E			
									A/E			
43	2								A/E			
42	3											
41	4.0	SANDSTONE: very low strength, red-brown and yellow-brown sandstone							A/E			
	4.5	Bore discontinued at 4.5m - Target depth reached										

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 4.5 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Standpipe installed to 4.5 m (screen 1.5 m to 4.5 m, blank GL to 1.5 m, gravel 1.5 to 4.5 m, bentonite 1.0 m to 1.5 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.1 AHD
EASTING: 335778
NORTHING: 6248695
DIP/AZIMUTH: 90°/--

BORE No: C26
PROJECT No: 86276.00
DATE: 8/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
42	0.1	ASPHALT							
		FILLING: brown sandy gravel filling, medium to coarse grained, angular to sub-angular roadbase gravel with some clay and ash, moist		A/E*	0.15 0.18		PID<5		
	0.3	FILLING: grey-brown brick and sandstone cobble filling with clayey sand, moist 0.5m: tree root (20mm), wire (5mm) 0.6m: glass inclusion (40mm)		A/E	0.4 0.5		PID<5		
				A/E	0.9 1.0		PID<5		
41	1	1.0m: brick fragment, sandstone gravel (20-50mm) and sandy clay							1
				A/E	1.4 1.5		PID<5		
	1.6	FILLING: dark brown clay filling with some coarse sand and sandstone gravel (20-40mm), moist							
	2	1.9m: plastic inclusion (40mm)		A/E	1.9 2.0		PID<5		2
40	2.1	Bore discontinued at 2.1m - Refusal on sandstone gravel							
	3								3
39									
	4								4
38									

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** Uncased

TYPE OF BORING: Non-destructive drilling to 2.1 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *09042018-3-3 duplicate sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335860
NORTHING: 6248686
DIP/AZIMUTH: 90°/--

BORE No: C27
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.05	TOPSOIL: light grey and brown topsoil, fine to medium grained sand, some silt, moist							
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist to wet							
	0.4				0.4				
	0.5	FILLING: dark grey, angular to sub-angular, igneous gravel filling (5-10 mm), some medium to coarse grained sand and ash, moist		A/E	0.5		PID<5		
		Bore discontinued at 0.5m - Refusal on sandstone boulder							
38	1								1
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 0.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.2 AHD
EASTING: 335871
NORTHING: 6248702
DIP/AZIMUTH: 90°/--

BORE No: C28
PROJECT No: 86276.00
DATE: 9/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.06	TOPSOIL: brown, sand topsoil, fine to medium grained, some silt, moist to wet		A/E*	0.06		PID<5		
	0.16	FILLING: brown, medium to coarse grained sand filling, trace of silt, moist			0.1				
		FILLING: dark brown, sand filling, medium to coarse grained sand, trace of silt, brick (5-30 mm), clay, sandstone gravel (5-30 mm) and ash, moist		A/E	0.55		PID<5		
					0.65				
				A/E	0.7		PID<5		
					0.8				
				A/E	0.9		PID<5		
	1	0.95 m: becoming light brown			1.0				1
38		1.1 m: tile fragments (20mm)		A/E	1.2		PID<5		
					1.3				
		1.4 m: saturated		A/E	1.5		PID<5		
	1.65				1.6				
		Bore discontinued at 1.65m - Refusal on unknown object							
	2								2
37									
	3								3
36									
	4								4
35									

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: 100 mm dia. hand-auger to 1.65 m

WATER OBSERVATIONS: Water observed at 1.4 m (after 10 minutes)

REMARKS: *'E' duplicate sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335930
NORTHING: 6248700
DIP/AZIMUTH: 90°/--

BORE No: C29
PROJECT No: 86276.00
DATE: 8/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.07	TOPSOIL: brown, sand topsoil, fine to medium grained, some silt, moist			0.1				
		FILLING: brown, medium to coarse grained sand filling, trace of silt, moist		A/E	0.2		PID<5		
					0.4				
				A/E	0.5		PID<5		
		0.5 m: some igneous gravel (5-10 mm)							
	0.6	Bore discontinued at 0.6m - Refusal on sandstone boulders							
38	1								1
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 0.6 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 44.7 AHD
EASTING: 336005
NORTHING: 6248697
DIP/AZIMUTH: 90°/--

BORE No: C30
PROJECT No: 86276.00
DATE: 12/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
44	0.03	ASPHALT		A/E	0.03 0.05		PID<5		
		FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse grained sand, trace of tile fragments, silt and clay, humid							
	0.4	0.3 m: sandstone and concrete path		A/E	0.4 0.5		PID<5		
		FILLING: brown, sandy gravel filling, sandstone and roadbase gravel (20-40 mm), fine to medium sand, some brick, tile and glass inclusions (10-40 mm), wet							
	0.7	FILLING: dark brown, sand filling, fine to medium grained sand with some clay, sandstone and roadbase gravel (2-10 mm) and ash, moist		A/E	0.9 1.0		PID<5		
43	1.4	SAND: brown, fine to medium grained sand, some clay, saturated		A/E	1.4 1.5		PID<5		
				A/E	1.9 2.0		PID<5		
42				A/E	2.5 2.6		PID<5		
	3.0	Bore discontinued at 3.0m - Target depth reached							
41									
40									

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 3.0 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.8 AHD
EASTING: 335782
NORTHING: 6248668
DIP/AZIMUTH: 90°/--

BORE No: C31
PROJECT No: 86276.00
DATE: 10 - 28/4/2018
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
40	0.11	ASPHALT							A/E			
	0.32	FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, trace of clay										
	0.35								A/E			
	0.7	ASPHALT										
1		FILLING: dark grey, roadbase and sandstone gravel, (2.5-30 mm), some coarse sand, brick inclusions, (30-80 mm), trace of clay							A/E			
39		FILLING: dark grey, sand filling, medium to coarse grained, some clay , trace sandstone gravel, (15-20 mm)							A/E			
2	2.2	SAND: medium dense, light grey, fine to medium grained sand, trace of clay							A/E			
38												
3		3.4-5.8 m: brown										
37												
4									S			8,8,13 N = 21
36												
5												
35		5.8-7.3 m: light yellow-brown										
6												
34												
7									S			22,3,6 N = 9
33												
8												
32												
9		9.2 m: becoming light grey and light yellow-brown clayey sand										
31												

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 31.2 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 31.2 m, NMLC-coring to 36.2 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.8 AHD
EASTING: 335782
NORTHING: 6248668
DIP/AZIMUTH: 90°/--

BORE No: C31
PROJECT No: 86276.00
DATE: 10 - 28/4/2018
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
30	11	SAND: medium dense, light grey, fine to medium grained sand, trace of clay *(continued)*							S			4,8,12 N = 20
29	11.9											
28	12	SAND: very dense, light grey-brown, fine to medium grained sand										
27	13	13.0 m: becoming light yellow-brown, some clay							S			25/130 refusal
26	14											
25	15	15.5 m: becoming red-brown clayey sand										
24	16								S			6,7,6 N = 13
23	16.9											
22	17	SILTY CLAY: very stiff, red-brown mottled light grey, silty clay, some fine sand							S			6,11,13 N = 24
21	18	18.0-22.0 m: slightly sandy										
	19								S			6,10,17 N = 27

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 31.2 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 31.2 m, NMLC-coring to 36.2 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.8 AHD
EASTING: 335782
NORTHING: 6248668
DIP/AZIMUTH: 90°/--

BORE No: C31
PROJECT No: 86276.00
DATE: 10 - 28/4/2018
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
20	21	SILTY CLAY: very stiff, red-brown mottled light grey, silty clay, some fine sand *(continued)*							S			4,6,10 N = 16
19	22								S			4,7,11 N = 18
18	23											
17	23.6	SANDY CLAY: very stiff, light grey, sandy clay, fine to medium grained sand 23.7 m: red-brown mottled orange-brown and light grey							S			6,10,12 N = 22
16	24											
15	25	25.0 CLAYEY SAND: medium dense, light grey, clayey sand, fine to medium sand							S			7,13,13 N = 26
14	26								S			7,11,14 N = 25
13	26.5	CLAY: very stiff, light grey, clay, some fine to medium sand										
12	27											
11	28											
	29											

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 31.2 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 31.2 m, NMLC-coring to 36.2 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.8 AHD
EASTING: 335782
NORTHING: 6248668
DIP/AZIMUTH: 90°/--

BORE No: C31
PROJECT No: 86276.00
DATE: 10 - 28/4/2018
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
10	31	CLAY: very stiff, light grey, clay, some fine to medium sand *(continued)*						Unless otherwise stated rock is fractured along rough planar bedding dipping at 0-10º				
9	31.2	SANDSTONE: very low strength, highly weathered, slightly fractured, pale grey-brown, fine to medium grained sandstone										PL(A) = 0.1
	31.96							31.88m: CORE LOSS: 80mm				
8	32							32.1m: B, 0º, fe				PL(A) = 0.1
	32.4	SANDSTONE: high strength, fresh, slightly fractured, pale grey, medium grained sandstone with some siltstone flakes						32.28-32.35 m: B (x2), 10º, cly co, 5 mm 32.58m: J, 75º, un, ro, cln	C	97	55	
7	33							32.65m: J, 75º, un, ro, cln				PL(A) = 1.1
								33.22m: J, 35º-45º, pl, ro, cly 33.35m: J, 35º-45º, pl, ro, cly 33.4m: J, 35º-45º, pl, ro, cly				PL(A) = 1.1
6	34							33.6m: B, 0º, cly ro, 2 mm 33.68m: J, 45º, pl, ro, cln 33.73m: J, 20º, pl, ro, cly				PL(A) = 0.58
	34.0	SANDSTONE: medium strength, fresh, fractured and slightly fractured, pale grey, medium grained sandstone with some clay bands							C	100	85	
5	35							35.37m: J, 35º, pl, ro, cln				PL(A) = 0.56
								35.73-35.76 m: Cs 35.80-35.82 m: Cs				
4	36							35.87m: J, 70º, pl, ro, cly 36.09-36.20 m: Cs				PL(A) = 0.61
	36.2	Bore discontinued at 36.2m - Target depth reached										
3	37											
2	38											
1	39											

RIG: NDD/Scout 1 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HW to 7.5 m, HQ to 31.2 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 7.5 m, rotary to 31.2 m, NMLC-coring to 36.2 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335861
NORTHING: 6248655
DIP/AZIMUTH: 90°/--

BORE No: C32
PROJECT No: 86276.00
DATE: 7/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.08	TOPSOIL: light grey and brown topsoil, fine to medium grained sand, trace of silt and rootlets, moist							
		FILLING: brown, medium to coarse grained sand, some silt, moist							
	0.4	0.35 m: brick inclusions (50-100 mm)							
	0.5	FILLING: dark grey, angular to sub-angular igneous gravel (5-10 mm), some fine to medium grained sand, wet			0.45				
				A/E			PID<5		
		FILLING: brown, medium to coarse grained sand filling, trace of silt, wet			0.6				
	0.9				0.9				
38	1	SAND: yellow-brown, fine to medium grained sand, trace of silt, moist		A/E	1.0		PID<5		1
					1.4				
	1.5			A/E	1.5		PID<5		
		Bore discontinued at 1.5m - Target depth reached							
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.2 AHD
EASTING: 335884
NORTHING: 6248655
DIP/AZIMUTH: 90°/--

BORE No: C33
PROJECT No: 86276.00
DATE: 9/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.05	TOPSOIL: brown, sand topsoil, fine to medium grained, some silt, moist		A/E	0.05 0.09		PID<5		
	0.25	FILLING: brown, medium to coarse grained sand filling, trace of silt, moist							
		FILLING: brown, sandy gravel filling, angular to sub-angular, roadbase gravel (10-20 mm), fine to coarse grained sand with some silt, moist		A/E	0.4 0.5		PID<5		
	0.5	FILLING: dark grey, igneous gravel (5-10 mm), some ash, moist to wet		A/E	0.7 0.8		PID<5		
	0.8	SAND: light yellow-brown and brown, fine to medium grained sand, trace of silt, moist		A/E	0.9 1.0		PID<5		
38	1								1
	1.5	Bore discontinued at 1.5m - Target depth reached		A/E	1.4 1.5		PID<5		
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.5 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 39.1 AHD
EASTING: 335923
NORTHING: 6248656
DIP/AZIMUTH: 90°/--

BORE No: C34
PROJECT No: 86276.00
DATE: 9/5/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.04	TOPSOIL: light brown, sand topsoil, fine to medium grained, some silt, moist		A/E	0.05 0.09		PID<5		
		FILLING: brown, medium to coarse grained sand, trace of silt and ash, moist		A/E	0.3		PID<5		
		0.4 m: dark grey with some clay and beds of brown medium to coarse sand		A/E	0.4 0.5		PID<5		
	0.6	0.5 m: brick inclusion 70 mm		A/E	0.6 0.7		PID<5		
		SAND: light yellow-brown, fine to medium grained sand, trace of silt, moist							
38	1			A/E	1.0 1.1		PID<5		1
	1.15	Bore discontinued at 1.15m - Target depth reached							
37	2								2
36	3								3
35	4								4

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 1.15 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 42.1 AHD
EASTING: 335983
NORTHING: 6248652
DIP/AZIMUTH: 90°/--

BORE No: C35
PROJECT No: 86276.00
DATE: 12/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
42	0.05	ASPHALT										
		FILLING: sandy gravel, angular to sub-angular gravel, medium to coarse grained sand, some clay and silt							A/E			
	0.4	FILLING: yellow brown, sandstone boulders (250 mm), some sandy clay (ripped sandstone)										
	0.6	SAND: light grey brown, fine to medium grained sand with a trace of clay							A/E			
41	1											
		1.6 m: becoming brown							A/E			
40	2											
									A/E			
39	3											
38	4											
	4.5	Bore discontinued at 4.5m - Target depth reached										

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 4.5 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Standpipe installed to 4.5 m (screen 1.5 m to 4.5 m, blank GL to 1.5 m, gravel 1.5 to 4.5 m, bentonite 1.0 m to 1.5 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 41.4 AHD
EASTING: 335971
NORTHING: 6248635
DIP/AZIMUTH: 90°/--

BORE No: C36
PROJECT No: 86276.00
DATE: 13 - 17/4/2018
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
41	0.05	ASPHALT										
	0.54	FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse grained sand, some silt and clay							A/E			
	0.9	FILLING: brown sand filling, fine to medium grained, some sandstone gravels (40-60 mm), trace of clay with some brick fragments (2-3 mm)							A/E			
40	1	SAND: medium dense, grey brown, sand, fine to medium grained, trace of clay							A/E			
39	2											
38	3								S			7,10,11 N = 21
37	4											
	4.0	SAND: dense then very dense, light grey, fine to medium grained sand, slightly cemented										
36	5											
35	6								S			9,13,18 N = 31
34	7								S			11,15,17 N = 32
33	8	8.0 m: becoming very dense							S			14,27/100 refusal
32	9											

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HQ to 15.65 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, rotary to 15.65 m, NMLC-coring to 21.6 m

WATER OBSERVATIONS: No free groundwater observed whilst NDD

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 41.4 AHD
EASTING: 335971
NORTHING: 6248635
DIP/AZIMUTH: 90°/--

BORE No: C36
PROJECT No: 86276.00
DATE: 13 - 17/4/2018
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
31		SAND: dense then very dense, light grey, fine to medium grained sand, slightly cemented *(continued)*							S			23,25/50 refusal
30	11 11.0	CLAYEY SAND: loose to medium dense, grey-brown, fine clayey sand							S			5,3,5 N = 8
29	12											
28	13								S			7,9,3 N = 12
27	14											
26	15								S			2,3,5 N = 8
	15.5											
	15.65	SANDSTONE: extremely low strength, light grey-brown, fine grained sandstone										
25	16	SANDSTONE: very low to low and low strength, extremely to highly weathered, unbroken, red-brown orange-brown and light grey, fine grained sandstone										
24	17								C	100	11	PL(A) = 0.13
23	18							17.71-17.82 m: Cs 110 mm 18.21-18.25 m: Cs 40 mm 18.44m: B, 0°, fe 18.48-18.70 m: J, 50°-70°, un, ro, fe 18.71m: J, 30°, pl, ro, fr 18.94-19.09 m: J, 85°, pl, ro, cly 2mm				PL(A) = 0.65
	18.24	SANDSTONE: medium then high strength, fresh stained then fresh, slightly fractured and unbroken, grey-brown, medium grained sandstone, thickly bedded										
22	19								C	97	93	PL(A) = 0.93

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HQ to 15.65 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, rotary to 15.65 m, NMLC-coring to 21.6 m

WATER OBSERVATIONS: No free groundwater observed whilst NDD

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 41.4 AHD
EASTING: 335971
NORTHING: 6248635
DIP/AZIMUTH: 90°/--

BORE No: C36
PROJECT No: 86276.00
DATE: 13 - 17/4/2018
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
21	20.48	SANDSTONE: high strength, fresh, slightly fractured and unbroken, grey-brown, medium grained sandstone, thickly bedded						19.95-20.00 m: Ds 50mm 20.08m: B, 0°, pl, ro, cly 3 mm 20.4m: CORE LOSS: 80mm	C	97	93	
20	21							21.01m: B, 0°, pl, ro, cly 4 mm 21.03m: J, 75°, pl, ro, cly 7 mm 21.18m: B, 0°, pl, ro, cly 5 mm	C	100	97	PL(A) = 1.1 PL(A) = 1.17
	21.6	Bore discontinued at 21.6m - Target depth reached										
19	22											
18	23											
17	24											
16	25											
15	26											
14	27											
13	28											
12	29											

RIG: NDD/DT250 **DRILLER:** Vac Group/GM **LOGGED:** LS/SI **CASING:** HQ to 15.65 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, rotary to 15.65 m, NMLC-coring to 21.6 m

WATER OBSERVATIONS: No free groundwater observed whilst NDD

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 38.6 AHD
EASTING: 335791
NORTHING: 6248581
DIP/AZIMUTH: 90°/--

BORE No: C37
PROJECT No: 86276.00
DATE: 17 - 20/4/2018
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
38	0.02	ASPHALT										
	0.15	FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse grained sand with some clay and silt, damp							A/E			
	0.9	FILLING: brown, clay filling, some coarse sand and gravel, ironstone sandstone gravel and concrete fragments (20-100 mm)							A/E			
37		SAND: medium dense, light grey, fine to medium sand with a trace of clay, moist							A/E			
		1.3-1.4 m: clayey sand										
36									A			
35									S			5,7,9 N = 16
34		4.7 m: light yellow-brown and light grey										
		4.8 m: becoming wet							S			4,5,5 N = 10
33												
32		7.0 m: with some clay							S			6,6,6 N = 12
31	8.0	SAND: dense, light grey, fine to medium grained sand with some silt and clay							S			12,17,26 N = 43
30												
29												

RIG: NDD/Geo305 **DRILLER:** Vac Group/LC **LOGGED:** SI/LS **CASING:** HW to 5.5 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 5.5 m, rotary to 31.0 m, NMLC-coring to 38.08 m

WATER OBSERVATIONS: Groundwater encountered at 4.6 m whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 38.6 AHD
EASTING: 335791
NORTHING: 6248581
DIP/AZIMUTH: 90°/--

BORE No: C37
PROJECT No: 86276.00
DATE: 17 - 20/4/2018
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
		SAND: dense, light grey, fine to medium grained sand with some silt and clay *(continued)*						B - Bedding J - Joint S - Shear F - Fault				
28	11											
27									S			9,13,18 N = 31
	12											
26		12.5 m: becoming very dense sand										
	13								S			20,31,37 N = 68
25	13.6											
		SANDY CLAY: firm to stiff, grey, sandy clay, fine to medium grained sand										
	14											
24									S			0,0,3 N = 3
	15											
23		15.5 m: becoming stiff										
	16											
22									S			2,5,6 N = 11
	17											
21									S			3,4,6 N = 10
	18	18.0										
		SAND: medium dense, light grey and red-brown, sand, medium to coarse grained, slightly clayey										
20	19											
									S			11,13,14 N = 27
19	20.0											

RIG: NDD/Geo305 **DRILLER:** Vac Group/LC **LOGGED:** SI/LS **CASING:** HW to 5.5 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 5.5 m, rotary to 31.0 m, NMLC-coring to 38.08 m

WATER OBSERVATIONS: Groundwater encountered at 4.6 m whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 38.6 AHD
EASTING: 335791
NORTHING: 6248581
DIP/AZIMUTH: 90°/--

BORE No: C37
PROJECT No: 86276.00
DATE: 17 - 20/4/2018
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding, J - Joint, S - Shear, F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
18		CLAY: stiff, light grey mottled red-brown clay, with some fine to medium grained sand										
									S			3,4,6 N = 10
	21											
17												
	22								S			0,3,7 N = 10
16												
	23	23.0 m: becoming very stiff, red-brown mottled light grey, sandy clay										
15									S			4,7,11 N = 18
	24											
14												
	25								S			5,9,5 N = 14
13												
	26											
12									S			2,7,19 N = 26
	26.7	SAND: dense, red-brown, medium to coarse grained sand, slightly clayey										
	27											
11												
	28								S			11,18,25 N = 43
10												
	29	29.0 m: becoming loose sand										
9									S			9,5,3 N = 8 No recovery

RIG: NDD/Geo305 **DRILLER:** Vac Group/LC **LOGGED:** SI/LS **CASING:** HW to 5.5 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 5.5 m, rotary to 31.0 m, NMLC-coring to 38.08 m

WATER OBSERVATIONS: Groundwater encountered at 4.6 m whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 38.6 AHD
EASTING: 335791
NORTHING: 6248581
DIP/AZIMUTH: 90°/--

BORE No: C37
PROJECT No: 86276.00
DATE: 17 - 20/4/2018
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
		SAND: dense, red-brown, medium to coarse grained sand, slightly clayey *(continued)*										
	30.5	SANDSTONE: extremely low strength, orange-brown and red-brown, fine to medium grained sandstone										
	31							31m: CORE LOSS: 180mm				
	31.18	SANDSTONE: extremely low and very low strength, extremely and highly weathered, slightly fractured, red-brown, fine grained sandstone with low strength bands						31.46-31.54 m: Cs, 80 mm	C	82	61	PL(A) = 0.87
	31.68	SANDSTONE: medium and high strength, fresh stained, slightly fractured and unbroken, light grey, medium grained sandstone, thickly bedded										
	32											PL(A) = 1.29
	33								C	100	100	PL(A) = 0.86
	34											PL(A) = 1.08
	35											
	35.75	SANDSTONE: high strength, fresh stained then fresh, slightly fractured and unbroken, pale grey, medium grained sandstone						35.55m: B, 0°, pl, ro, cly 3 mm 35.62-35.72 m: Ds				PL(A) = 1.24
	36							36.49m: B, 0°, pl, ro, fe	C	100	97	PL(A) = 1.51
	37											
	38											PL(A) = 2.95
	38.08	Bore discontinued at 38.08m - Target depth reached										
	39											

RIG: NDD/Geo305 **DRILLER:** Vac Group/LC **LOGGED:** SI/LS **CASING:** HW to 5.5 m

TYPE OF BORING: Non-destructive drilling to 3.0 m, solid flight auger to 5.5 m, rotary to 31.0 m, NMLC-coring to 38.08 m

WATER OBSERVATIONS: Groundwater encountered at 4.6 m whilst augering

REMARKS: Standpipe installed to 9.0 m (screen 3.0 m to 9.0 m, blank GL to 3.0 m, gravel 3.0 to 9.0 m, bentonite 2.7 m to 3.0 m, backfill to GL, gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.2 AHD
EASTING: 335868
NORTHING: 6248615
DIP/AZIMUTH: 90°/--

BORE No: C38
PROJECT No: 86276.00
DATE: 18/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.04	ASPHALT							
		FILLING: brown, sand filling, coarse grained, some brick, sandstone and roadbase gravel (20-30 mm) and ash, humid		A/E	0.1 0.15		PID<5		
	0.3	Bore discontinued at 0.3m - Hand auger refusal on gravel							
	1								1
39									
	2								2
38									
	3								3
37									
	4								4
36									

RIG: Hand auger **DRILLER:** LS **LOGGED:** LS **CASING:** uncased
TYPE OF BORING: 100 mm dia. hand-auger to 0.3 m
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.7 AHD
EASTING: 335937
NORTHING: 6248620
DIP/AZIMUTH: 90°/--

BORE No: C39
PROJECT No: 86276.00
DATE: 13/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.05	ASPHALT							
		FILLING: brown, sandy gravel filling, angular to sub-angular roadbase gravel, medium to coarse grained sand, damp		A/E	0.1 0.15		PID<5		
	0.25	FILLING: light brown, sand filling, fine to medium grained with some sandstone gravel (40-60 mm), moist		A/E	0.5 0.6		PID<5		
	0.8	FILLING: dark brown, sand filling, fine to medium grained with a trace of clay, moist		A/E	0.9 1.0		PID<5		
39	1.2	SAND: light grey brown, sand, fine to medium grained, trace of clay, moist		A/E	1.4 1.5		PID<5		
	1.9			A/E	1.8 1.9		PID<5		
38		Bore discontinued at 1.9m - Target depth reached							
37									
36									

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 1.9 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Infrastructure NSW
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park Road, MOORE PARK

SURFACE LEVEL: 40.3 AHD
EASTING: 335946
NORTHING: 6248616
DIP/AZIMUTH: 90°/--

BORE No: C40
PROJECT No: 86276.00
DATE: 3/4/2018
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.04	ASPHALT		A/E	0.05 0.1		PID<5		
	0.3	FILLING: brown, sandy gravel filling, angular to sub-angular, roadbase gravel, medium to coarse grained sand, some clay, moist							
	0.5	FILLING: light brown, sandy clay filling, fine to medium grained, some sandstone gravel (20-50 mm) 0.4 m: brick inclusion (250 mm) Bore discontinued at 0.5m - Refusal on brick and concrete							
39	1								1
38	2								2
37	3								3
36	4								4

RIG: NDD **DRILLER:** Vac Group **LOGGED:** LS **CASING:** uncased

TYPE OF BORING: Non-destructive drilling to 0.5 m

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.3 AHD
EASTING: 335801
NORTHING: 6248794
DIP/AZIMUTH: 90°/--

BORE No: BH101D
PROJECT No: 86529.00
DATE: 4 - 5/3/2019
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
46	0.1	ASPHALT										
		FILLING: dark brown gravelly sand filling with some sandstone boulders, humid										
45	1	1.5m: trace clay							A/E			PID < 1ppm
44	2								A/E			PID < 1ppm
	2.5	FILLING: dark brown sandy clay filling with some sandstone gravel and cobbles, humid							S			5,8,12 N = 20
43	3	3.5m: clayey sand and sandy clay							A/E			PID < 1ppm
42	4	4.3m: trace roadbase gravel							A/E			PID < 1ppm
									S			10,15,13 N = 28
41	5								A/E			PID < 1ppm
									S			8,11,15 N = 26
	6.0	SAND: medium dense, yellow-brown, fine to medium grained sand, trace silt, humid							A/E			PID < 1ppm
40	7								A/E			PID < 1ppm
39									S			3,4,8 N = 12
38	8	8.0m: becoming yellow-brown							S			8,8,19 N = 27
37	9											

RIG: Scout 4 **DRILLER:** SS **LOGGED:** RK/SI **CASING:** HW to 7.6m, HQ to 24.8m

TYPE OF BORING: NDD to 1.0m, Solid flight auger to 7.5m, Rotary to 24.8m, NMLC to 30.8m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.3 AHD
EASTING: 335801
NORTHING: 6248794
DIP/AZIMUTH: 90°/--

BORE No: BH101D
PROJECT No: 86529.00
DATE: 4 - 5/3/2019
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding, J - Joint, S - Shear, F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
36		SAND: medium dense, yellow-brown, fine to medium grained sand, trace silt, humid *(continued)*							S			5,8,13 N = 21
	10	10.0m: trace clay										
35	11								S			10,13,15 N = 28
		11.5m: becoming yellow-orange with some clay										
34	12											
33	13	13.0 SAND: dense, pale grey-brown, fine to medium grained sand with trace clay							S			10,17,22 N = 39
32	14											
									S			13,19,22 N = 41
31	15											
		15.5 SANDY CLAY: stiff to very stiff, pale grey with red-brown mottling, fine sandy clay										
30	16								S			6,7,8 N = 15
29	17											
		17.5m: very stiff to hard							S			7,14,16 N = 30
28	18											
27	19	19.0m: becoming red-brown and pale grey							S			5,9,13 N = 22

RIG: Scout 4 **DRILLER:** SS **LOGGED:** RK/SI **CASING:** HW to 7.6m, HQ to 24.8m

TYPE OF BORING: NDD to 1.0m, Solid flight auger to 7.5m, Rotary to 24.8m, NMLC to 30.8m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.3 AHD
EASTING: 335801
NORTHING: 6248794
DIP/AZIMUTH: 90°/--

BORE No: BH101D
PROJECT No: 86529.00
DATE: 4 - 5/3/2019
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
26		SANDY CLAY: stiff to very stiff, pale grey with red-brown mottling, fine sandy clay *(continued)*										
									S			5,8,10 N = 18
21												
25												
22		22.0m: firm, sandy clay										
									S			3,4,4 N = 8
24												
23												
23	23.8											
24		SANDSTONE: extremely low to very low strength, red-brown, fine to medium grained sandstone							S			13,17,29 N = 46
22												
	24.8											
25		SANDSTONE: medium strength, moderately weathered then fresh, slightly fractured, brown-orange, fine to medium grained sandstone						24.88m: B 0°, cln, pl, ro 25.15m: B 0°, cln, pl, ro				PL(A) = 0.33
21								25.81m: B 5°, cln, pl, ro				PL(A) = 0.84
26	26.0							26.04m: B 15°, co cly, pl 26.15m: B 0°, cln, pl, ro	C	100	97	
20		SANDSTONE: medium to high strength, fresh, slightly fractured to unbroken, pale grey, medium grained sandstone						26.71m: B 0°, cln, pl, ro				PL(A) = 1
27												
19								27.74m: B 0°, cln, pl, ro				PL(A) = 1
28								28.11m: B 20°, co cly, pl 28.31m: B 10°, cln, pl, ro 28.5m: B 0°, cln, pl, ro				PL(A) = 1.38
18	28.3											
		SANDSTONE: high strength, fresh, slightly fractured and unbroken, pale grey, medium grained sandstone							C	100	86	
29												
17												PL(A) = 1.43

RIG: Scout 4 **DRILLER:** SS **LOGGED:** RK/SI **CASING:** HW to 7.6m, HQ to 24.8m

TYPE OF BORING: NDD to 1.0m, Solid flight auger to 7.5m, Rotary to 24.8m, NMLC to 30.8m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.3 AHD
EASTING: 335801
NORTHING: 6248794
DIP/AZIMUTH: 90°/--

BORE No: BH101D
PROJECT No: 86529.00
DATE: 4 - 5/3/2019
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
16	30.32	SILTSTONE: medium strength, slightly weathered, fractured to slightly fractured, pale grey to grey siltstone with approximately 25% fine grained sandstone laminations						30.11m: B 10°, cln, pl, ro 30.27m: J 80°, cln, pl, ro	C	100	86	PL(A) = 1.2 PL(A) = 0.59
	30.8	Bore discontinued at 30.8m										
15	31											
14	32											
13	33											
12	34											
11	35											
10	36											
9	37											
8	38											
7	39											

RIG: Scout 4 **DRILLER:** SS **LOGGED:** RK/SI **CASING:** HW to 7.6m, HQ to 24.8m

TYPE OF BORING: NDD to 1.0m, Solid flight auger to 7.5m, Rotary to 24.8m, NMLC to 30.8m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 47.0 AHD
EASTING: 335834
NORTHING: 6248817
DIP/AZIMUTH: 90°/--

BORE No: BH102
PROJECT No: 86529.00
DATE: 20 - 21/2/2019
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
47	0.08	ASPHALT							A/E*			Triplicate BT1A, BT1B
		FILLING: variably compacted, dark brown, clayey, gravelly sand filling, trace building rubble (broken bricks and clay tiles), and ripped sandstone fragments, ash, humid							A/E			
46	1								A/E			
									S			14,11,19 N = 30
45	2								E			PID < 1ppm
									S			10,8,7 N = 15
44	3								E			PID < 1ppm
		4.0m: becoming brown, clay content reduced							E			
43	4								S			13,15,22 N = 37
42	5								E			
									S			4,5,7 N = 12
41	6								E			
40	7	7.0 SAND: medium dense, yellow-brown, fine to medium grained sand with some silt and clay							S			5,6,6 N = 12
39	8								E			
									S			12,13,15 N = 28
38	9											

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 8.5m, HQ to 20.6m

TYPE OF BORING: Solid flight auger to 5.95m, Rotary to 20.6m, NMLC to 26.6m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Hole collapse at 5.95m

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 47.0 AHD
EASTING: 335834
NORTHING: 6248817
DIP/AZIMUTH: 90°/--

BORE No: BH102
PROJECT No: 86529.00
DATE: 20 - 21/2/2019
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
37		SAND: medium dense, yellow-brown, fine to medium grained sand with some silt and clay *(continued)*							S			8,8,9 N = 17
		10.0m: becoming orange-brown										
36	11	11.0m: becoming pale grey										
									S			6,7,10 N = 17
35	12											
	12.5	SAND: dense, orange-brown, fine to medium grained sand										
34	13								S			11,19,22 N = 41
33	14 14.0	CLAYEY SAND: medium dense, pale grey fine to medium grained clayey sand with some silt										
									S			6,6,7 N = 13
32	15											
31	16	16.0m: pale grey with red-brown mottling							S			5,13,16 N = 29
30	17											
									S			5,9,11 N = 20
29	18											
28	19	19.0m: red-brown with some medium pale grey sandstone fragments							S			6,8,12 N = 20

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 8.5m, HQ to 20.6m

TYPE OF BORING: Solid flight auger to 5.95m, Rotary to 20.6m, NMLC to 26.6m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Hole collapse at 5.95m

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 47.0 AHD
EASTING: 335834
NORTHING: 6248817
DIP/AZIMUTH: 90°/--

BORE No: BH102
PROJECT No: 86529.00
DATE: 20 - 21/2/2019
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
27	20.06	SANDSTONE: very low strength, pale brown, fine to medium grained sandstone										5/50 refusal
	20.75								S			Refusal
26	21	SANDSTONE: low strength, highly weathered, slightly fractured, red-brown, medium grained sandstone						20.6m: CORE LOSS: 150mm 20.75m: Ds 30mm 21.29m: B, 0°, pl, ro , cln 21.6m: B, 0°, pl, ro , cln				PL(A) = 0.21 PL(A) = 0.21
25	22 22.0	SANDSTONE: very low strength, highly weathered, slightly fractured, orange-brown, fine to medium grained sandstone						22.17m: Cs 10mm 22.23m: Cs 10mm 22.28m: Ds 60mm 22.65m: Ds 140mm	C	95	87	PL(A) = 0.11
	22.8											
24	23	SANDSTONE: high then medium strength, moderately weathered then fresh, slightly fractured, brown then pale grey, medium grained sandstone with some very low strength bands						23.4m: B 10°, pl, ro , cln 23.65m: CORE LOSS: 350mm				PL(A) = 1.27
23	24 24.0							24.24m: B, 0°, pl, ro , cln 24.4m: Cs 15mm 24.45m: Cs 20mm				PL(A) = 0.86
22	25 25.0	SANDSTONE: high strength, fresh, unbroken, pale grey, medium grained sandstone						24.86m: B, 0°, stn, fe, pl, ro	C	88	99	PL(A) = 1.59
21	26											PL(A) = 1.77
	26.6	Bore discontinued at 26.6m										
20	27											
19	28											
18	29											

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 8.5m, HQ to 20.6m

TYPE OF BORING: Solid flight auger to 5.95m, Rotary to 20.6m, NMLC to 26.6m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Hole collapse at 5.95m

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.3 AHD
EASTING: 335883
NORTHING: 6248785
DIP/AZIMUTH: 90°/--

BORE No: BH103
PROJECT No: 86529.00
DATE: 22/2/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
39	0	FILLING: dark brown, gravelly sand filling with some silt, trace rootlets and ash, humid							A/E			PID < 1ppm
		0.5m: sand filling							A/E			PID < 1ppm
	1	1.0m: becoming yellow brown							A/E			PID < 1ppm
38									S			6,8,6 N = 14
	2	2.0 SAND: medium dense, yellow-orange, fine to medium grained sand, trace silt, humid							E			PID < 1ppm
37									S			7,14,15 N = 29
	3								E			Triplicate BT3A, BT3B, PID < 1ppm
36												
	4								S			6,7,7 N = 14
35		4.5 CLAYEY SAND: medium dense, pale grey, fine to medium grained clayey sand with some silt, moist										
	5								S			25 refusal 2/20 bouncing
34		5.2 SANDSTONE: extremely low strength, red-brown, fine to medium grained sandstone										
	6	6.0 6.04 SANDSTONE: medium strength, moderately then slightly weathered, slightly fractured, red-brown and pale grey, medium grained sandstone						6m: CORE LOSS: 40mm 6.04-6.46m: B 0°-20°, pl, cln, ro (x6)				
33												PL(A) = 0.36
	7								C	99	75	PL(A) = 0.57
32												
	8											PL(A) = 1.05
31								8.6m: B 5°, pl, inf, cly 8.71-8.84m: J 50°-60°, pl, cln, ro (x3) 8.9m: fg 100mm				
	9	9.11						9m: CORE LOSS: 110mm 9.24m: B 10°, pl, ro, cln 9.48m: B 10°, pl, ro, cln	C	96	81	PL(A) = 0.61
30		10.0										

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 5.5m, HQ to 6.6m

TYPE OF BORING: Solid flight auger to 5.2m, Rotary to 6.0m, NMLC to 17.34m

WATER OBSERVATIONS: Free groundwater encountered at 4.2m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.3 AHD
EASTING: 335883
NORTHING: 6248785
DIP/AZIMUTH: 90°/--

BORE No: BH103
PROJECT No: 86529.00
DATE: 22/2/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
29		SANDSTONE: low to medium strength, slightly weathered, slightly fractured, pale grey brown, medium to coarse grained sandstone with some extremely low and very low strength bands						10.44m: B 10°, pl, ro, cln				PL(A) = 0.3
28	11							10.93m: J 40°, pl, ro, cln	C	96	81	PL(A) = 0.31
	11.62							11.2m: Cs 20mm 11.34m: B 0°, pl, ro, stn, cbs 11.42m: B 5°, pl, ro, stn, cbs 11.62m: Ds 180mm 11.88m: Ds 120mm				
27	12	SANDSTONE: very low strength, highly weathered, fractured, pale grey brown and red-brown, medium to coarse grained sandstone						12m: CORE LOSS: 700mm				
	12.7							12.7-13.13m: fg				
26	13											
	13.15	SANDSTONE: high strength, highly and moderately weathered, fractured and slightly fractured, pale grey brown, medium to coarsed sandstone with very low and medium strength bands							C	74	45	PL(A) = 1.38
25	14											
	14.7	Inferred void partially filled with sand						14.7m: CORE LOSS: 1300mm				PL(A) = 0.98
24	15											
	16 16.0	SANDSTONE: medium strength, slightly weathered, slightly fractured, pale grey, fine to medium grained sandstone						16.0-17.34m: J 85°-90°, pl, inf, ro	C	49	81	PL(A) = 1
23	17											
22	17.34	Bore discontinued at 17.34m										PL(A) = 0.5
21	18											
20	19											

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 5.5m, HQ to 6.6m

TYPE OF BORING: Solid flight auger to 5.2m, Rotary to 6.0m, NMLC to 17.34m

WATER OBSERVATIONS: Free groundwater encountered at 4.2m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.3 AHD
EASTING: 335918
NORTHING: 6248780
DIP/AZIMUTH: 90°/--

BORE No: BH104A
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities (B - Bedding, J - Joint, S - Shear, F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
39		FILLING: dark brown sand filling, trace silt, humid							A/E			PID < 1ppm
		0.8m: orange-pale grey							A/E			PID < 1ppm
	1								A/E			PID < 1ppm
38	1.0	SAND: medium dense, yellow-pale grey, fine to medium sand, trace silt, humid							S			5,6,11 N = 17
		2.5m: dense										
		3.0m: orange-brown, trace clay and medium sandstone fragments										
37	2								A/E			PID < 1ppm
	3								S			11,19,22 N = 41
	3.0	SAND: dense, orange-brown, fine to medium sand, trace clay and sandstone gravel							A			
36	3.5	SANDY CLAY: very stiff to hard, yellow-brown with pale grey mottling, sandy clay with some sandstone fragments, humid										
	4								S			14,10/10 refusal bouncing
35	4.2											
	4.28	SANDSTONE: high then medium strength, moderately to slightly weathered, slightly fractured, light grey-brown and red-brown, medium to coarse grained sandstone						4.2m: CORE LOSS: 80mm				PL(A) = 1.38
	5							4.75m: B, h, pl ,ro, cln				PL(A) = 0.38
34		5.3m: extremely low to very low strength						5.2m: B50°, pl, co, cly 5.31m: Cs 15mm 5.4m: Fg 60mm	C	97	78	
	5.45	SANDSTONE: high strength, moderately to slightly weathered and unbroken, slightly fractured, pale grey and brown, medium grained sandstone										
	6							6.14m: J80°, pl, ro, cln				PL(A) = 1.16
33												
	7							7.13m: B10°, pl, ro, cln				PL(A) = 1.48
32								7.53m: B10°, pl, ro, cln				
	8											PL(A) = 1.91
31								8.63m: B0°, pl, ro, cln	C	100	70	
	9							9.1-9.52m: B10°- 20°, pl , ro, cln (x5)				PL(A) = 1.37
30	9.55							9.52-10m: drilling induced break				

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 4.0m, HQ to 4.2m

TYPE OF BORING: Solid flight auger to 4.0m, Rotary to 4.2m, NMLC to 13.06m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.3 AHD
EASTING: 335918
NORTHING: 6248780
DIP/AZIMUTH: 90°/--

BORE No: BH104A
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
29		SANDSTONE: medium strength, moderately to slightly weathered, slightly fractured, pale grey and brown, medium grained sandstone *(continued)*										PL(A) = 0.61
	11							10.72m: B10°, pl, ro, cln				
28	11.48							11.44m: Fg 40mm CORE LOSS: 40mm	C	97	97	PL(A) = 0.94
	11.75	SANDSTONE: high strength, fresh, unbroken, pale grey, medium sandstone										
27	12											PL(A) = 1.12
	13	13.06 Bore discontinued at 13.06m										
26	14											
25	15											
24	16											
23	17											
22	18											
21	19											
20												

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 4.0m, HQ to 4.2m

TYPE OF BORING: Solid flight auger to 4.0m, Rotary to 4.2m, NMLC to 13.06m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.9 AHD
EASTING: 335967
NORTHING: 6248724
DIP/AZIMUTH: 90°/--

BORE No: BH105
PROJECT No: 86529.00
DATE: 1 - 4/3/2019
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
46	0.13	CONCRETE							A/E			PID <1ppm
	0.3	FILLING: dark grey, medium to coarse igneous gravel filling with some sand, humid							A/E			
	1	FILLING: yellow-brown sand filling, trace igneous gravel, silt, and ash, humid 1.0m: trace sandstone fragments							A/E			
45	2								E			
									E			
44	3								A/E			
43	4	3.5-4.0m: grey-dark brown, hydrocarbon odour 4.0m: pale grey and dark grey, slight hydrocarbon odour							A/E			PID = 1 ppm
	4.5	SAND: pale grey, fine to medium grained sand, trace silt, humid							A/E			PID < 1ppm
42	5											
									A/E			PID < 1ppm
41	6	6.0 CLAYEY SAND: yellow-brown clayey sand, trace sandstone fragments, humid										
40	7											
39	8								A			
	8.4	SANDSTONE: very low strength, red-brown, medium grained sandstone										
	8.76											
38	9	SANDSTONE: low then low to medium strength, slightly weathered, unbroken, pale-grey brown, medium grained sandstone						8.8m: B 0°, pl, ro, cln	C	100	85	PL(A) = 0.15 PL(A) = 0.31
37	9.9											

RIG: DT250 **DRILLER:** JE **LOGGED:** WW/SI **CASING:** HW to 8.1m, HQ to 8.76m

TYPE OF BORING: Diacore to 0.13m, Solid flight auger to 8.7m, Rotary to 8.76m, NMLC to 16.07m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.9 AHD
EASTING: 335967
NORTHING: 6248724
DIP/AZIMUTH: 90°/--

BORE No: BH105
PROJECT No: 86529.00
DATE: 1 - 4/3/2019
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
36	11	SANDSTONE: extremely low to very low strength, extremely and highly weathered, slightly fractured, pale-grey brown, medium grained sandstone, with high strength iron band *(continued)*						9.92m: J 40°, pl, ro, cly, vn 10.15m: J 40°, pl, ro, cy, vn 10.4m: B 0°, pl, ro, cly, vn	C	100	30	PL(A) = 0.11
	11.2											
35	12	SANDSTONE: high strength, moderately weathered, slightly fractured and unbroken, pale-grey brown then brown, medium to coarse grained sandstone						10.9-10.93m: fg 10.93m: B 0°, pl, cly 20mm 11.1m: B 0°, pl, cly 10mm 11.6m: J 35°, pl, ro, cln 11.88m: B 10°, pl, ro, cln	C	92	77	PL(A) = 1.5 PL(A) = 1.54
	12.56 12.68	12.54-12.85m: very low strength bands						12.54m: B 0°, pl, ro, cln 12.56m: CORE LOSS: 120mm				
34	13							12.8m: J 20°, 70°, un, ro, cln 12.87m: B 0°, pl, ro, cln 13.04-13.07m: fg 13.07m: J 35°, pl, ro, cly, vn 13.18m: B 0°, pl, ro, cly, >>vn	C	100	98	PL(A) = 1.33 PL(A) = 1.56
33	14											
32	15							14.72m: B 5°, pl, ro, cln	C	100	100	PL(A) = 1.84
31	16 16.07	Bore discontinued at 16.07m										PL(A) = 1.85
30	17											
29	18											
28	19											
27												

RIG: DT250 **DRILLER:** JE **LOGGED:** WW/SI **CASING:** HW to 8.1m, HQ to 8.76m

TYPE OF BORING: Diacore to 0.13m, Solid flight auger to 8.7m, Rotary to 8.76m, NMLC to 16.07m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.4 AHD
EASTING: 335927
NORTHING: 6248666
DIP/AZIMUTH: 90°/--

BORE No: BH106
PROJECT No: 86529.00
DATE: 25/2/2019
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
39	0	FILLING: dark brown to brown sand with some igneous gravel filling, trace silt, moist to humid							A/E			PID < 1ppm
									A/E			PID < 1ppm
	0.8	0.6-0.8m: gravelly (road base) sand, trace building rubble (broken clay tiles) and ash							A/E			PID < 1ppm
38	1	SAND: medium dense, yellow-brown, fine to medium grained sand, trace silt, humid							S			6,9,10 N = 19
									E			Triplicate BT4A,BT4B PID < 1ppm
37	2	1.8m: yellow-orange							S			6,9,11 N = 20
36	3	3.5m: yellow-pale grey										
35	4								S			10,17,19 N = 36
	4.0	SAND: dense, pale grey brown, fine to medium grained sand, moist										
34	5	5.5m: becoming wet							S			11,16,18 N = 34
33	6											
32	7								S			10,22,25 N = 47
31	8											
30	9								S			16,18,20 N = 38
	9.5	SANDY CLAY: very stiff, red-brown with pale grey mottling sandy clay, iron cemented gravel										

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 8.5m, HQ to 17.54m

TYPE OF BORING: Solid flight auger to 8.5m, Rotary to 17.54m, NMLC to 24.48m

WATER OBSERVATIONS: Free groundwater encountered at 5.5m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.4 AHD
EASTING: 335927
NORTHING: 6248666
DIP/AZIMUTH: 90°/--

BORE No: BH106
PROJECT No: 86529.00
DATE: 25/2/2019
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
29		SANDY CLAY: very stiff, red-brown with pale grey mottling sandy clay, iron cemented gravel *(continued)*							S			10,10,11 N = 21
	11											
28									S			6,8,13 N = 21
	12											
27												
	13	13.0 CLAY: hard, red-brown and pale grey clay with some red-brown iron-cemented bands							S			20,23,29 N = 52
26		14.5: sandstone fragments increased										
	14											
25									S			20,28,30/130 refusal
	15	14.9 SANDSTONE: extremely to very low strength sandstone										
24												
	16								S			22,30/120 refusal
23												
	17											
22												
		17.69 SANDSTONE: medium then high strength, fresh to moderately weathered, slightly fractured, pale grey and brown, medium to coarse grained sandstone						17.55m: CORE LOSS: 140mm	S			10,10/40 refusal
	18											PL(A) = 0.74
								18.13m: B 10°, pl, ro, cln 18.34m: B 20°, pl, ro, cln 18.6m: B 20°, pl, ro, cln 18.79m: B 10°, pl, ro, cln	C	94	94	PL(A) = 2.34
21	19											
20								19.49m: B 0°, pl, ro, cln 19.54m: B 10°, pl, ro, cln 19.65m: B 0°, pl, ro, cln	C	98	93	PL(A) = 2.42

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 8.5m, HQ to 17.54m

TYPE OF BORING: Solid flight auger to 8.5m, Rotary to 17.54m, NMLC to 24.48m

WATER OBSERVATIONS: Free groundwater encountered at 5.5m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.4 AHD
EASTING: 335927
NORTHING: 6248666
DIP/AZIMUTH: 90°/--

BORE No: BH106
PROJECT No: 86529.00
DATE: 25/2/2019
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
19	20.28							20.22m: fg 20mm 20.24m: CORE LOSS: 40mm 20.42m: B 10°, pl, ro, cln	C	98	93	PL(A) = 2.52
18	21.45	SANDSTONE: high strength, slightly weathered to fresh, slightly fractured, pale grey and brown, medium to coarse grained sandstone						21.28m: Cs 20mm 21.53m: B 10°, pl, ro, cln 21.8m: B 0°, pl, ro, cln 22.25m: J 35°, pl, ro, cln 22.52-22.7m: J 65°, un, ro, cln 22.70-23.3m: J 80°, he pl, Pt				PL(A) = 2.77 PL(A) = 2.51
17									C	100	72	
16												PL(A) = 2.71
15	24.48	Bore discontinued at 24.48m						24.17m: J 50°, pl, ro, fg, ti, 24.22-24.27m: B (x2) cly co, 2mm				PL(A) = 1.22
14												
13												
12												
11												
10												

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/SI **CASING:** HW to 8.5m, HQ to 17.54m

TYPE OF BORING: Solid flight auger to 8.5m, Rotary to 17.54m, NMLC to 24.48m

WATER OBSERVATIONS: Free groundwater encountered at 5.5m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335912
NORTHING: 6248614
DIP/AZIMUTH: 90°/--

BORE No: BH107
PROJECT No: 86529.00
DATE: 27 - 28/2/2019
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
			EW HW MW SW FS FR		Ex Low / Very Low / Low / Medium / High / Very High / Ex High		0.01 / 0.05 / 0.10 / 0.50 / 1.00	B - Bedding J - Joint S - Shear F - Fault				
40	0.1	ASPHALT										
		FILLING: brown to dark brown, fine to medium grained sand filling, clay filling with trace brick and tile fragment, ash, damp										
		0.7m: plastic conduit										
39	1								E			
	1.8	SAND: light grey, fine to medium grained sand, damp							E			
	2.1	SAND: medium dense, black mottled brown, fine to medium sand with some silt, damp							A			
38	2								S			6,10,12 N = 22
		3m: interbedded with light grey, fine to medium grained sand							A			
37	3											
									S			5,9,10 N = 19
	4.35	SAND: medium dense, yellow-orange, fine to medium sand with trace clay, damp							A			
36	4											
									S			6,7,11 N = 18
35	5											
	6.5	SAND: very dense, yellow, fine to medium sand, damp										
									S			12,20,25/120 refusal
34	6											
		7.2m: becoming wet										
33	7											
									S			11,22,27 N = 49
32	8											
31	9								S			17,30 refusal
	10.0											

RIG: 140 Explora **DRILLER:** JS **LOGGED:** WW/RK **CASING:** HW to 4.0m, HQ to 19.17m

TYPE OF BORING: NDD to 1.2m, Solid flight auger to 8.5m, Rotary to 19.17m, NMLC to 25.96m

WATER OBSERVATIONS: Free groundwater encountered at 8.0m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335912
NORTHING: 6248614
DIP/AZIMUTH: 90°/--

BORE No: BH107
PROJECT No: 86529.00
DATE: 27 - 28/2/2019
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
30		SAND: very dense, yellow, fine to medium sand, wet										
29	11								S			17,25/120 refusal
28	12											
	12.3	SANDY CLAY: soft to firm orange mottled pale grey, fine to medium sandy clay							S			1,1,3 N = 4
27	13											
26	14								S			3,3,4 N = 7
25	15											
	15.5	SANDY CLAY: very stiff then stiff, pale grey-brown, fine sandy clay							S			4,7,9 N = 16
24	16	16.5m: becoming stiff										
23	17								S			4,4,6 N = 10
	18											
	18.0	SANDSTONE: extremely low strength, pale grey, fine to medium grained sandstone										
22	19											
	19.17											
21	19.5	SANDSTONE: extremely to very low strength, extremely to highly weathered, slightly fractured, pale grey-brown, fine grained sandstone						19.54 - 19.82m: B 0-10°. pl, ro, cln (x4)	C	100	84	PL(A) = 1.21

RIG: 140 Explora **DRILLER:** JS **LOGGED:** WW/RK **CASING:** HW to 4.0m, HQ to 19.17m

TYPE OF BORING: NDD to 1.2m, Solid flight auger to 8.5m, Rotary to 19.17m, NMLC to 25.96m

WATER OBSERVATIONS: Free groundwater encountered at 8.0m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335912
NORTHING: 6248614
DIP/AZIMUTH: 90°/--

BORE No: BH107
PROJECT No: 86529.00
DATE: 27 - 28/2/2019
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Type	Core Rec. %	RQD %	Test Results & Comments
20		SANDSTONE: medium and high strength, moderately to slightly weathered, slightly fractured, red-brown and pale grey, medium to coarse grained sandstone *(continued)*						20.69m: B 0°. pl, ro, fe stn, cly 5mm 20.84m: J 45°, pl, ro, fe stn & B 20°, pl, ro, fe stn 20.9m: B 5°, pl, ro, fe stn 21.52m: B 10°. pl, ro, fe stn, cly vn 21.62m: B 10°. ti, cly vn 22.07m: B 15°. ti, cly vn 22.61m: B 10°. ti, cly vn 22.67m: B 10°. pl, ro, fe stn 23.81m: B 10°. pl, ro, cln 24.09m: B 15°. ti, cly vn 24.32m: B 15°. ti, cly vn 24.96m: J 75°. un, ro, cln 25.16m: B 15°. pl, ro, cly vn	C	100	84	PL(A) = 1.8
21												
19												
22												PL(A) = 0.9
18												PL(A) = 2
23									C	100	93	
17												PL(A) = 2.14
24	24.0	SANDSTONE: high strength, fresh, slightly fractured, pale grey, medium to coarse grained sandstone										
16												PL(A) = 2.22
25									C	100	100	
15												PL(A) = 1.64
26	25.96	Bore discontinued at 25.96m										
14												
27												
13												
28												
12												
29												
11												

RIG: 140 Explora **DRILLER:** JS **LOGGED:** WW/RK **CASING:** HW to 4.0m, HQ to 19.17m

TYPE OF BORING: NDD to 1.2m, Solid flight auger to 8.5m, Rotary to 19.17m, NMLC to 25.96m

WATER OBSERVATIONS: Free groundwater encountered at 8.0m

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.0 AHD
EASTING: 335852
NORTHING: 6248620
DIP/AZIMUTH: 90°/--

BORE No: BH108
PROJECT No: 86529.00
DATE: 5 - 6/3/2019
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
40	0.1	ASPHALT							E			PID < 1ppm
		FILLING: dark brown, gravelly sand filling, humid, (igneous, sandstone and asphalt gravel)										
		0.4m: timber & brick fragments observed										
39	1								E			PID < 1ppm
	1.1	FILLING: dark brown, gravelly sandy clay, (igneous gravel), trace ash							E			PID < 1ppm
	1.8	FILLING: brown-grey sand filling with some gravel, humid							E			PID < 1ppm
38	2	2.2m: becoming dark grey							E			PID < 1ppm
	2.8	SAND: medium dense, yellow-brown, fine to medium grained sand with trace silt, damp							S			4,5,6 N = 11
37	3								E			PID < 1ppm
									E			
36	4								S			7,9,10 N = 19 PID < 1ppm
35	5											
	5.5	SAND: dense, grey, fine to medium grained sand with trace silt, damp							S			9,12,18 N = 30
34	6											
33	7	7.0m: dense to very dense, becoming yellow-grey							S			11,20,30 N = 50
32	8	8.0 SAND: dense, yellow-brown, fine to medium grained sand with trace ironstone gravel and silt							S			14,20,24 N = 44
31	9											

RIG: DT250 **DRILLER:** JE **LOGGED:** RK/WW/SI **CASING:** HW to 4.5, HQ to 20.15

TYPE OF BORING: NDD to 0.9m, Solid flight auger to 4.5m, Rotary to 20.15m, NMLC to 30.44m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▽	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.0 AHD
EASTING: 335852
NORTHING: 6248620
DIP/AZIMUTH: 90°/--

BORE No: BH108
PROJECT No: 86529.00
DATE: 5 - 6/3/2019
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
30		SAND: dense, yellow-brown, fine to medium grained sand with trace ironstone gravel and silt *(continued)*							S			17,24,24 N = 48
29	11											
		11.5m: becoming yellow-orange and brown							S			22,30/131 refusal
28	12											
27	13	13.0 CLAYEY SAND: medium dense, orange, fine to medium grained clayey sand							S			10,6,7 N = 13
26	14											
		14.5 SANDY CLAY: firm, grey sandy clay with trace of ironstone gravel							S			2,2,3 N = 5
25	15											
24	16	16.0 CLAYEY SAND: medium dense to dense, orange-red clayey, fine to medium grained sand							S			12,14,15 N = 29
23	17											
		17.5 SANDY CLAY: very stiff, orange-red brown sandy clay							S			9,10,16 N = 26
22	18											
21	19								S			6,11,21 N = 32
		19.3 SANDSTONE: extremely low strength, grey motted orange, fine to medium grained sandstone										

RIG: DT250 **DRILLER:** JE **LOGGED:** RK/WW/SI **CASING:** HW to 4.5, HQ to 20.15

TYPE OF BORING: NDD to 0.9m, Solid flight auger to 4.5m, Rotary to 20.15m, NMLC to 30.44m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.0 AHD
EASTING: 335852
NORTHING: 6248620
DIP/AZIMUTH: 90°/--

BORE No: BH108
PROJECT No: 86529.00
DATE: 5 - 6/3/2019
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
20	20.15											
	20.17	SANDSTONE: very low strength, highly weathered, fractured brown, medium grained sandstone						20.15m: CORE LOSS: 20mm 20.17 - 20.21m: fg 40mm 20.29m: Cs 10mm 20.36m: B 0°, pl, ro, cln 20.54 - 21.02m: B 0-10°, pl, ro, cln (x5) 21.17m: B 0°, pl, cly vn	C	98	88	PL(A) = 0.75 PL(A) = 1.57
	20.3											
19	21	SANDSTONE: medium strength, highly to moderately weathered, factured to slightly factured, orange-brown, medium grained sandstone 21.3-21.85m: high strength										
18	22							22.34 - 22.47m: B 10-20°, pl, ro, cln (x3) 22.63m: B 10°, pl, ro, cln 22.86m: Cs 30mm				PL(A) = 0.61
	22.88											
17	23	SANDSTONE: high strength, moderately weathered, slightly fractured, brown, medium grained sandstone						23.15 - 23.36m: B 0-20°, pl, ro, cln (x3)	C	100	89	PL(A) = 2.47
16	24							24.05 - 24.4m: B 5-15°, pl, ro, cln (x4)				PL(A) = 2.05
	24.5	SANDSTONE: medium and high strength, fresh, slightly fractured, pale grey, medium grained sandstone with some very low strength band and siltstone clasts 25.0-25.34m: 5-10% siltstone flecks 25.5-25.85m: very low strength siltstone band						24.56m: J, 50°, pl, ro,cln 24.62m: B 10°, pl, ro, ti 24.72 - 24.83m: Ds 110m 25.34m: Cs 20mm 25.5 - 25.85m: Ds 35m				PL(A) = 2.07
15	25											
14	26							26.13m: B 10°, pl, ro, cln 26.50 - 25.70m: Ds 20m	C	94	79	PL(A) = 0.59
13	27							26.82m: B 10°, pl, ro, cln				
	27.18							27.16 - 27.36m: Ds 20m 27.18m: CORE LOSS: 160mm				
	27.34	SANDSTONE: high strength, fresh, slightly fractured and unbroken, pale grey, medium grained sandstone						27.65m: B 0°, pl, ro, cln				PL(A) = 1.58
12	28											
11	29							28.61m: B 0°, pl, cly vn 28.85m: B 0°, pl, cly vn 29.25m: B 5°, pl, ro, cln	C	100	100	PL(A) = 1.1 PL(A) = 1.2

RIG: DT250 **DRILLER:** JE **LOGGED:** RK/WW/SI **CASING:** HW to 4.5, HQ to 20.15

TYPE OF BORING: NDD to 0.9m, Solid flight auger to 4.5m, Rotary to 20.15m, NMLC to 30.44m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.0 AHD
EASTING: 335852
NORTHING: 6248620
DIP/AZIMUTH: 90°/--

BORE No: BH108
PROJECT No: 86529.00
DATE: 5 - 6/3/2019
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
									C	100	100	PL(A) = 1.23
	30.44	Bore discontinued at 30.44m										

RIG: DT250 **DRILLER:** JE **LOGGED:** RK/WW/SI **CASING:** HW to 4.5, HQ to 20.15

TYPE OF BORING: NDD to 0.9m, Solid flight auger to 4.5m, Rotary to 20.15m, NMLC to 30.44m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 47.1 AHD
EASTING: 335905
NORTHING: 6248830
DIP/AZIMUTH: 90°/--

BORE No: BH201
PROJECT No: 86529.00
DATE: 5/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
47	0.2	ASPHALT							
		FILLING: dark-brown gravelly sand filling with some clay, trace building rubble (tile fragments, steel reinforcement, terracotta fragments), and ash, humid							
46	1	1.0m: trace sandstone fragments		E	1.0		PID < 1ppm		1
45	2	2.0m: sand with some gravel		E	2.0		PID < 1ppm		2
44	3			E	3.0		PID < 1ppm		3
				E	3.3		PID < 1ppm		
	3.4	Bore discontinued at 3.4m Termination of hole due to refusal on concrete							
43	4								4
42	5								5
41	6								6
40	7								7
39	8								8
38	9								9

RIG: Scout 4 **DRILLER:** SS **LOGGED:** RK/CLN **CASING:** Nil

TYPE OF BORING: NDD to 1.0m, Solid flight auger to 3.4m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 47.1 AHD
EASTING: 335926
NORTHING: 6248824
DIP/AZIMUTH: 90°/--

BORE No: BH202
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
47	0.1	ASPHALT		E	0.1		PID < 1ppm		
		FILLING: dark brown gravelly sand filling with some clay, trace ash, humid		E	0.5 0.6		PID < 1ppm		
		0.8m: clayey sand		E	0.9		PID < 1ppm		
46	1								1
	1.5	FILLING: dark brown gravelly clay filling with some sand, trace sandstone fragments and ash, humid		E	1.8		PID < 1ppm		
45	2								2
				E*	2.7 2.8		Triplicate BT6A, BT6B; PID = 3 ppm		
44	3	3.5m: clayey sand, trace building rubble (broken glass and bricks)							3
				E	3.7		PID < 1ppm		
43	4	4.3m: yellow-brown							4
				E	4.5		PID < 1ppm		
	4.6	SAND: yellow-brown, fine to medium sand, trace silt, humid to moist							
42	5								5
				E	5.6 5.7		PID < 1ppm		
	5.7	Bore discontinued at 5.7m							
41	6								6
40	7								7
39	8								8
38	9								9

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK/WW **CASING:** Nil

TYPE OF BORING: Solid flight auger to 5.7m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.1 AHD
EASTING: 335864
NORTHING: 6248801
DIP/AZIMUTH: 90°/--

BORE No: BH203
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40		CONCRETE							
	0.66			E	0.7		PID < 1ppm		
	0.85	FILLING: dark brown, clayey sand filling with some sandstone and igneous gravel and trace ash							
39	1	SAND: dark yellow orange, fine to medium sand		*E	1.0		PID < 1ppm Triplicate BT11A,BT11B		1
		1.7m: becoming light yellow							
38	2 2.0	Bore discontinued at 2.0m		E	2.0		PID < 1ppm		2
37	3								3
36	4								4
35	5								5
34	6								6
33	7								7
32	8								8
31	9								9

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.66m, Solid flight auger to 2.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.9 AHD
EASTING: 335895
NORTHING: 6248800
DIP/AZIMUTH: 90°/--

BORE No: BH204
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.85	CONCRETE							
	1.0	FILLING: brown sand filling with some clay and igneous gravel, trace ash		E	1.0		PID < 1ppm		
		FILLING: orange brown sand filling (possibly natural)		E	1.5		PID < 1ppm		
38	1.8	SAND: light yellow brown, fine to medium sand							
	2.5	Bore discontinued at 2.5m		E	2.5		PID < 1ppm		
37									
36									
35									
34									
33									
32									
31									
30									

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.85 m, Solid flight auger to 2.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.0 AHD
EASTING: 335930
NORTHING: 6248801
DIP/AZIMUTH: 90°/--

BORE No: BH205
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40		CONCRETE							
	0.65	FILLING: light yellow brown sand filling with trace gravel		E	0.65		PID < 1ppm		
39	1 1.0			E	1.0		PID < 1ppm		1
	1.1	FILLING: light brown sand filling with some silt (possibly natural)							
		SAND: yellow brown, fine to medium sand		E	1.5		PID < 1ppm		
		1.8m: becoming pale yellow brown							
38	2 2.0	Bore discontinued at 2.0m		E	2.0		PID < 1ppm		2
37	3								3
36	4								4
35	5								5
34	6								6
33	7								7
32	8								8
31	9								9

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.65m, Solid flight auger to 2.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335848
NORTHING: 6248778
DIP/AZIMUTH: 90°/--

BORE No: BH206
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.52	CONCRETE							
		FILLING: dark yellow orange sand filling with trace gravel, slightly silty (possibly natural)		E	1.0		PID <1ppm		
	1.3	SAND: light yellow, fine to medium sand		E	1.5		PID <1ppm		
39		1.5m - trace ironstone gravel							
38				E	2.5		PID <1ppm		
		2.7m: becoming brown with grey bands							
37				E	3.5		PID <1ppm		
36		4.9m: becoming light yellow brown							
35	5.5	Bore discontinued at 5.5m							
34									
33									
32									
31									

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.52m, Solid flight auger to 5.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.4 AHD
EASTING: 335938
NORTHING: 6248781
DIP/AZIMUTH: 90°/--

BORE No: BH207
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.49	CONCRETE							
	0.65	FILLING: yellow brown sand filling with trace igneous gravel and ash		E	0.5		PID <1ppm		
	1	SAND: yellow, fine to medium sand with trace clay		E	1.0		PID <1ppm		
39				E	1.5		PID <1ppm		
	1.75	SAND: orange brown sand with some clay							
	2								
38	2.5	Bore discontinued at 2.5m		E	2.5		PID <1ppm		
	3								
37									
	4								
36									
	5								
35									
	6								
34									
	7								
33									
	8								
32									
	9								
31									

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.49m, Solid flight auger to 2.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.8 AHD
EASTING: 335982
NORTHING: 6248785
DIP/AZIMUTH: 90°/--

BORE No: BH208
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.1	ASPHALT		E	0.1		PID < 1ppm		
		FILLING: dark-brown and yellow sand filling, trace sandstone fragments, igneous gravel and ash, humid		E	0.5		PID < 1ppm		
		0.7m: becoming dark-brown		E	0.9 1.0		PID < 1ppm		
45		1.5m: becoming yellow-brown		E	1.5		PID < 1ppm		
	2.1	FILLING: dark grey sand filling, trace sandstone gravel and silt, humid		E	2.1		PID < 1ppm		
		2.4 - 2.5m: broken glass							
44		2.8m: gravelly sand, moist		E	2.8		PID < 1ppm		
	3.3	SANDSTONE: red-brown and pale grey, low strength sandstone		A	3.3		PID < 1ppm		
	3.6	Bore discontinued at 3.6m Termination of hole due to refusal on sandstone							
43									
42									
41									
40									
39									
38									
37									

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK **CASING:** Nil

TYPE OF BORING: Soild flight auger to 3.6m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.9 AHD
EASTING: 335817
NORTHING: 6248758
DIP/AZIMUTH: 90°/--

BORE No: BH209
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.14	CONCRETE		E	0.2		PID < 1ppm		
		FILLING: dark brown to brown, fine to medium grained clayey sand filling, trace fine to medium grained sandstone, iron gravel, igneous gravel, clay, brick and ash fragements, damp to moist		E	0.5		PID < 1ppm		
	1			E*	1.0		BT21A/BT21B, PID < 1ppm		1
45	2			E	2.0		PID < 1ppm		2
44	3			E	3.0		PID < 1ppm		3
43	4			E	4.0		PID < 1ppm		4
42	5			E	5.0		PID < 1ppm		5
41	6			E	6.0		PID < 1ppm		6
	6.4	Bore discontinued at 6.4m Termination of hole due to refusal on inferred concrete							
40	7								7
39	8								8
38	9								9
37									

RIG: GEO205 **DRILLER:** SS **LOGGED:** AH **CASING:** Nil

TYPE OF BORING: Diacore to 0.14, Solid flight auger to 6.4m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.3 AHD
EASTING: 335846
NORTHING: 6248752
DIP/AZIMUTH: 90°/--

BORE No: BH210
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40		CONCRETE							
	0.47	FILLING: dark brown orange sand filling with trace gravel and some clay		E	0.7		PID < 1ppm		
	0.9	FILLING: orange yellow sand filling, slightly clayey (possibly natural)		*E	1.0		PID <1 ppm BT12A, BT12B		
39	1	1.5 m - orange yellow sand filling with trace gravel		E	1.5		PID <1 ppm		
	2								
38	2.2	SAND: orange yellow, fine to medium sand		E	2.5		PID <1 ppm		
	3	3 - 3.4m: brown sand band							
37				E	3.5		PID <1 ppm		
	4	4.0 Bore discontinued at 4.0m							
36									
	5								
35									
	6								
34									
	7								
33									
	8								
32									
	9								
31									

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.47m, Solid flight auger to 4.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.3 AHD
EASTING: 335941
NORTHING: 6248748
DIP/AZIMUTH: 90°/--

BORE No: BH211
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.00	CONCRETE							
	0.48	FILLING: brown sand filling with trace clay and gravel sized pieces of concrete and ironstone, ash		E	0.5		PID < 1ppm		
	0.65	SAND: yellow brown, fine to medium sand with trace clay		*E	1.0		PID < 1ppm BT13A, BT13B		
39	1								1
	2.0	1.9m: becoming orange with some clay		E	1.9		PID < 1ppm		
38	2	Bore discontinued at 2.0m							2
37	3								3
36	4								4
35	5								5
34	6								6
33	7								7
32	8								8
31	9								9

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.48m, Solid flight auger to 2.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.9 AHD
EASTING: 335965
NORTHING: 6248766
DIP/AZIMUTH: 90°/--

BORE No: BH212
PROJECT No: 86529.00
DATE: 1/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.15	CONCRETE		E	0.15		PID < 1ppm		
	0.3	FILLING: dark brown, medium to coarse igneous gravel filling with some sand		E	0.6		PID < 1ppm		
		FILLING: dark brown to brown, gravelly sand filling with some sandstone fragments, ash, hydrocarbon odour, humid							
	1	0.8m: sand filling with some gravel, no hydrocarbon odour		E	1.1		PID < 1ppm		
		1.5m: becoming yellow-brown, trace gravel		E	1.6		PID < 1ppm		
45		1.8m: becoming dark grey		E	1.8		PID < 1ppm		
	2	2.1m: trace building rubble (broken bricks, clay tiles and glass)		E	2.3		PID < 1ppm		
44	3								
				E	3.4		PID < 1ppm		
43	4	4.0m: becoming dark grey-brown, hydrocarbon odour		E*	4.0		BT15A, BT15B, PID < 1ppm		
				E	4.5		PID < 1ppm		
42	4.8	SANDSTONE: very low to low stregnth, yellow - pale grey, fine to medium grained sandstone							
	5			A	5.2		PID < 1ppm		
	5.4	Bore discontinued at 5.4m Termination of hole due to refusal on sandstone							
41	6								
40	7								
39	8								
38	9								
37									

RIG: DT250 **DRILLER:** JE **LOGGED:** RK **CASING:** Nil

TYPE OF BORING: Diacore to 0.15m, Solid flight auger to 5.4m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 42.8 AHD
EASTING: 335783
NORTHING: 6248719
DIP/AZIMUTH: 90°/--

BORE No: BH213
PROJECT No: 86529.00
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
42	0.1	ASPHALT		E	0.1		PID < 1ppm		
		FILLING: dark brown gravelly sand filling, trace building rubble (broken bricks and clay tiles) and ash, humid		E	0.5		PID < 1ppm		
		0.5m: sand with trace gravel			0.6				
	1	0.8m: becoming yellow-brown		E	0.9		PID < 1ppm		
41	2	2.0m: becoming dark brown		E	2.0		PID < 1ppm		
	2.5	FILLING: pale grey clay and dark brown sand filling, trace gravel, humid		E	2.5		PID < 1ppm		
40	3			E	3.6		PID < 1ppm		
39	4	4.0 SAND: yellow-orange, fine to medium grained sand, humid		E	4.5		PID < 1ppm		
38	5								
	5.5	Bore discontinued at 5.5m		E*	5.5		Triplicate BT2A, BT2B, PID < 1ppm		
37	6								
36	7								
35	8								
34	9								
33									

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK **CASING:** Nil

TYPE OF BORING: Solid flight auger to 5.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 41.6 AHD
EASTING: 335827
NORTHING: 6248720
DIP/AZIMUTH: 90°/--

BORE No: BH214
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
41	0.3	CONCRETE							
		FILLING: dark-brown gravelly sand filling with trace silt and ash, damp		E	0.5		PID < 1ppm		
	1	0.8m: with some gravel		E	0.9 1.0		PID < 1ppm		
		1.2m: with trace gravel		E	1.3		PID < 1ppm		
40	1.7	FILLING: pale-dark grey, fine to medium grained sand filling with trace silt, humid		E	1.8		PID < 1ppm		
	2	2.2m: becoming to dark brown, damp		E	2.4		PID < 1ppm		
39	2.7	SAND: brown-yellow, fine to medium grained sand with trace clay, damp		E	2.9		PID < 1ppm		
	3	3.1 SAND: yellow, fine to medium grained sand with trace silt, moist		E	3.5				
38	4								
37				E*	4.5		Triplicate TB7A, TB7B, PID < 1ppm		
	5	5.0 Bore discontinued at 5.0m							
36	6								
35	7								
34	8								
33	9								
32									

RIG: GEO205 **DRILLER:** SS **LOGGED:** WW **CASING:** Nil

TYPE OF BORING: Diacore to 0.3m, Solid flight auger to 5.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 39.4 AHD
EASTING: 335846
NORTHING: 6248721
DIP/AZIMUTH: 90°/--

BORE No: BH215
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
39	0.3	CONCRETE							
		FILLING: dark-brown gravelly sand filling with trace clay and ash		E	0.5 0.6		PID < 1ppm		
	0.7	SAND: yellow-brown, fine to medium grained sand with trace silt, damp		E	0.9		PID < 1ppm		
38	1	1.1m: becoming yellow		E	1.4		PID < 1ppm		
37	2	2.3m: becoming yellow-brown, moist		E	2.4		PID < 1ppm		
	3	3.0 Bore discontinued at 3.0m							
36	4								
35	5								
34	6								
33	7								
32	8								
31	9								
30									

RIG: GEO205 **DRILLER:** SS **LOGGED:** WW **CASING:** Nil

TYPE OF BORING: Diacore to 0.3m, Solid flight auger to 3.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.3 AHD
EASTING: 335942
NORTHING: 6248721
DIP/AZIMUTH: 90°/--

BORE No: BH216
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0	CONCRETE							
	0.49	FILLING: grey brown sand filling with some igneous gravel and trace orange sandy clay, ash		E	0.5		PID < 1ppm		
	0.8	FILLING: orange-brown sand filling with some clay, ash		E	0.9		PID < 1ppm		
	1								1
	1.1	SAND: orange, fine to medium sand with trace silt							
39		1.5m: becoming slightly clayey		E	1.5		PID < 1ppm		
	2	2m: bands of yellow sand							2
38	2.5	Bore discontinued at 2.5m		E	2.5		PID < 1ppm		
	3								3
37									
	4								4
36									
	5								5
35									
	6								6
34									
	7								7
33									
	8								8
32									
	9								9
31									

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.49m, Solid flight auger to 2.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 45.8 AHD
EASTING: 336004
NORTHING: 6248719
DIP/AZIMUTH: 90°/--

BORE No: BH217
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
45	0.1	CONCRETE		E	0.1		PID < 1ppm		
		FILLING: dark brown sand filling, trace silt and building rubble (broken bricks), humid		E	0.5		PID < 1ppm		
	1			E	0.9		PID < 1ppm		1
	1.4	FILLING: black coal wash/ash, humid		E	1.4 1.5		PID < 1ppm		
44		1.8m: black coal wash/ash with some sand							
	2			E	2.0		PID < 1ppm		2
	2.1	FILLING: grey-brown sand filling with trace silt, humid		E E	2.3 2.4		PID < 1ppm PID < 1ppm		
43	2.8	SANDSTONE: very low to low strength, red-brown to pale grey sandstone		A	3.0		PID < 1ppm		
	3								3
	3.5	Bore discontinued at 3.5m							
42	4								4
41	5								5
40	6								6
39	7								7
38	8								8
37	9								9
36									

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** RK **CASING:** Nil

TYPE OF BORING: Diacore to 0.1m, Solid flight auger to 3.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.9 AHD
EASTING: 335822
NORTHING: 6248691
DIP/AZIMUTH: 90°/--

BORE No: BH218
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46	0.3	CONCRETE							
		Bore discontinued at 0.3m Termination of hole due to void below concrete							
45	1								
44	2								
43	3								
42	4								
41	5								
40	6								
39	7								
38	8								
37	9								

RIG: GEO205 **DRILLER:** SS **LOGGED:** AH **CASING:** Nil

TYPE OF BORING: Diacore to 0.3m

WATER OBSERVATIONS:

REMARKS: Void below slab to approximately 3.8m below surface level

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.6 AHD
EASTING: 335847
NORTHING: 6248687
DIP/AZIMUTH: 90°/--

BORE No: BH219
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.4	CONCRETE							
		FILLING: brown gravelly sand filling, damp		E	0.5		PID < 1ppm		
	0.8	FILLING: grey sand filling with trace silt, damp		E	0.9		PID < 1ppm		
39	1.7	SAND: yellow-brown, fine to medium grained sand with trace silt, damp (possibly filling)		E	1.9		PID < 1ppm		
38				E	2.8 2.9				
37				E	3.8		PID < 1ppm		
	4.0	Bore discontinued at 4.0m							
36									
35									
34									
33									
32									
31									

RIG: GEO205 **DRILLER:** SS **LOGGED:** WW **CASING:** Nil

TYPE OF BORING: Diacore to 0.4m, Solid flight auger to 4.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335942
NORTHING: 6248690
DIP/AZIMUTH: 90°/--

BORE No: BH220
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40.5	0.0	CONCRETE							
40	0.43	FILLING: brown sand filling with trace gravel, silt and ash		E	0.5 0.6		PID < 1ppm		
				E	0.9		PID < 1ppm		
39	1.4	SAND: yellow, fine to medium grained sand with trace silt, damp		E	1.8		PID < 1ppm		
38		2.6m: becoming yellow-orange		E*	2.8		Triplicate TB8A, TB8B, PID < 1ppm		
37.5	3.0	Bore discontinued at 3.0m							

RIG: GEO205 **DRILLER:** SS **LOGGED:** WW **CASING:** Nil

TYPE OF BORING: Diacore to 0.43m, Solid flight auger to 3.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 46.9 AHD
EASTING: 335968
NORTHING: 6248697
DIP/AZIMUTH: 90°/--

BORE No: BH221
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
46.8	0.13	CONCRETE		E	0.2		PID < 1ppm		
	0.25	FILLING: dark brown clayey and slightly gravelly sand filling, gravel is igneous		E	0.5		PID < 1ppm		
		FILLING: dark brown sand filling with some gravel							
		0.5m: becoming slightly gravelly (igneous, sandstone and concrete gravel)		E	1.0		PID < 1ppm		
	1.1	0.6m: becoming light brown / red							
		FILLING: dark brown sand filling							
	1.51	1.3m: with some terracotta and tile fragments		E	1.5		PID < 1ppm		
		FILLING: orange-brown sand filling							
				E	2.0		PID = 1 ppm		
		2.1m: becoming slightly clayey with trace ash							
		2.4m: dark staining with slight hydrocarbon odour and ash		E	2.5		PID = 2 ppm		
		2.7m: orange and brown sand filling with trace gravel							
	4.2	FILLING: orange sand filling		E	4.5		PID < 1ppm		
		4.8m: becoming dark brown with trace glass fragments							
		5.2m: becoming grey		E	5.5		PID < 1ppm		
	6.5	SAND: orange, fine to medium sand		E	6.5		PID < 1ppm		
		7.0m: becoming brown							
37.9	9.0	Bore discontinued at 9.0m							

RIG: DT250 **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.13m, Solid flight auger to 9.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.8 AHD
EASTING: 335796
NORTHING: 6248671
DIP/AZIMUTH: 90°/--

BORE No: BH222
PROJECT No: 86529.00
DATE: 26/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.25	ASPHALT		E	0.25		PID <1 ppm		
	0.5	ROADBASE: dark grey brown slightly gravelly sand filling with igneous gravel		E	0.5		PID <1 ppm		
	1	FILLING: dark brown orange sand filling with some clay and gravel (igneous and concrete gravel), trace ash 1m: some timber and yellow orange sand		E	1.0		PID <1 ppm		
39	1.4	SAND: yellow brown, fine to medium sand with some clay							
	2			E	2.0		PID <1 ppm		
	2.5	2.4m: becoming dark brown orange sandy clay (indurated sand)		E	2.4		PID <1 ppm		
38		Bore discontinued at 2.5m							
	3								
37	4								
36	5								
35	6								
34	7								
33	8								
32	9								
31									

RIG: 140 Explorer **DRILLER:** JE **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Solid flight auger to 2.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335850
NORTHING: 6248661
DIP/AZIMUTH: 90°/--

BORE No: BH223
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40.5	0.0	CONCRETE							
40	0.42	FILLING: dark brown, slightly clayey sand filling with some gravel		E	0.5		PID < 1ppm		
		0.6m: becoming dark grey with trace ash							
	1	1.0m: with some tile fragments		E	1.0		PID < 1ppm		1
		1.2m: becoming brown orange with grey clay		E	1.2		PID < 1ppm		
39	1.5	FILLING: light grey sand filling (possibly natural)							
	2			E	2.0		PID < 1ppm		2
38	2.3	FILLING: dark brown sand filling with trace ironstone gravel (possibly natural)							
	2.5	SAND: yellow brown, fine to medium sand							
	3			E	3.0		PID < 1ppm		3
37				E	3.5		PID < 1ppm		
	4	4.0 Bore discontinued at 4.0m							4
36	5								5
35	6								6
34	7								7
33	8								8
32	9								9
31									

RIG: DT250 **DRILLER:** GM **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.42m, Solid flight auger to 4.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.2 AHD
EASTING: 335867
NORTHING: 6248641
DIP/AZIMUTH: 90°/--

BORE No: BH224
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40		CONCRETE							
	0.71	FILLING: dark brown, grey red, slightly gravelly clay filling, gravel igneous		E	1.0		PID < 1ppm		
39	1.2	FILLING: dark brown sand filling with some gravel and ash		E	1.5		PID < 1ppm		
	1.6	FILLING: light grey sand filling (possibly natural)		E	1.8		PID < 1ppm		
	1.8	FILLING: orange dark brown clayey sand filling (possibly natural)		E	2.0		PID < 1ppm		
38	2.1	SAND: yellow orange, fine to medium sand with trace ironstone gravel							
	3.0	Bore discontinued at 3.0m		E	3.0		PID < 1ppm		
37									
36									
35									
34									
33									
32									
31									

RIG: DT250 **DRILLER:** GM **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.71m, Solid flight auger to 3.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.2 AHD
EASTING: 335894
NORTHING: 6248641
DIP/AZIMUTH: 90°/--

BORE No: BH225
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40		CONCRETE							
	0.61	FILLING: dark brown gravelly sand filling with concrete gravel/cobbles and some clay, ash		*E	0.6		Triplicate BT14A,BT14B, PID < 1ppm		
39	1.1	FILLING: dark brown, slightly gravelly sand filling with some red-grey clay and ash			1.0				
	1.6	FILLING: light grey sand filling (possibly natural) 1.7m: becoming dark brown		E	1.5		PID < 1ppm		
38				E	2.0		PID < 1ppm		
	2.5	SAND: yellow brown, fine to medium sand							
37	3.0	Bore discontinued at 3.0m		E	3.0		PID < 1ppm		
36									
35									
34									
33									
32									
31									

RIG: DT250 **DRILLER:** GM **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.61m, Solid flight auger to 3.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.2 AHD
EASTING: 335923
NORTHING: 6248641
DIP/AZIMUTH: 90°/--

BORE No: BH226
PROJECT No: 86529.00
DATE: 28/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40		CONCRETE							
	0.8								
39	1.0	FILLING: grey sand filling with some gravel (trace igneous gravel) and ash		E	0.9		PID < 1ppm		
		SAND: pale grey, fine to medium grained sand							
	1.6			E	1.5		PID < 1ppm		
38		SAND: dark-brown sand with trace sandstone and ironstone gravel							
	2.1			E	2.0		PID < 1ppm		
		SAND: yellow, fine to medium grained with trace ironstone gravel							
37	2.5	Bore discontinued at 2.5m		E	2.5		PID < 1ppm		
36									
35									
34									
33									
32									
31									

RIG: DT250 **DRILLER:** GM **LOGGED:** CLN **CASING:** Nil

TYPE OF BORING: Diacore to 0.8m, Solid flight auger to 2.5m

WATER OBSERVATIONS:

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.5 AHD
EASTING: 335942
NORTHING: 6248656
DIP/AZIMUTH: 90°/--

BORE No: BH227
PROJECT No: 86529.00
DATE: 1/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.42	CONCRETE							
		FILLING: dark brown, fine to medium grained sand with trace gravel and ash		E	0.5 0.6		PID < 1ppm		
	1	0.8m: with some gravel		E	1.0		PID < 1ppm		1
39	1.7	SAND: yellow-brown, fine to medium grained sand with trace silt, damp		E	2.0		PID < 1ppm		
	2	2.6m: becoming yellow		E	2.8		PID < 1ppm		2
38	3.0	Bore discontinued at 3.0m							
	3								3
37	4								4
36	5								5
35	6								6
34	7								7
33	8								8
32	9								9
31									

RIG: GEO205 **DRILLER:** SS **LOGGED:** WW **CASING:** Nil

TYPE OF BORING: Diacore to 0.42m, Solid flight auger to 3.0m

WATER OBSERVATIONS:

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 44.1 AHD
EASTING: 335999
NORTHING: 6248689
DIP/AZIMUTH: 90°/--

BORE No: BH228
PROJECT No: 86529.00
DATE: 27/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
44	0.1	ASPHALT		E	0.1		PID < 1ppm		
		FILLING: dark brown sand filling with trace silt, gravel and ash, humid		E	0.5		PID < 1ppm		
43	1			E	0.9 1.0		PID < 1ppm		1
	1.3			E	1.2		PID < 1ppm		
		FILLING: dark grey-brown sand filling with some gravel and trace silt, humid							
	1.7								
42	2	FILLING: yellow-brown sand filling with trace silt and gravel, humid		E	1.9		PID < 1ppm		2
41	3			E	3.0		PID < 1ppm		3
				E*	3.7		Triplicate BT5A,BT5B, PID < 1ppm		
40	4								4
	4.2	SAND: yellow, fine to medium grained sand, humid		E	4.3 4.4		PID < 1ppm		
	4.7	SAND: yellow-orange sand with trace clay, humid							
39	5			E	5.2				5
	5.5	Bore discontinued at 5.5m							
38	6								6
37	7								7
36	8								8
35	9								9

RIG: Scout 4 **DRILLER:** RKE **LOGGED:** WW **CASING:** Nil

TYPE OF BORING: Solid flight auger to 5.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Lendlease Building Pty Ltd
PROJECT: Sydney Football Stadium Redevelopment
LOCATION: Moore Park

SURFACE LEVEL: 40.6 AHD
EASTING: 335935
NORTHING: 6248624
DIP/AZIMUTH: 90°/--

BORE No: BH229
PROJECT No: 86529.00
DATE: 7/3/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
40	0.2	ASPHALT							
		FILLING: yellow sand filling, humid (NDD backfill)							
	1								1
	1.2	FILLING: brown-dark brown sand filling, trace sandstone fragments and ash, humid		E	1.5		PID = 2 ppm		
39		1.5m: trace roots							
	2			E	2.0		PID < 1ppm		2
38	2.7	2.6m: becoming yellow-brown		E	2.7		PID < 1ppm		
	3	SAND: yellow-pale grey, fine to medium grained sand, humid							3
37	3.7	Bore discontinued at 3.7m		E	3.7		PID < 1ppm		
	4								4
36									
	5								5
35									
	6								6
34									
	7								7
33									
	8								8
32									
	9								9
31									

RIG: DT250 **DRILLER:** JE **LOGGED:** RK **CASING:** Nil

TYPE OF BORING: NDD to 1.2m, Solid flight auger to 3.7m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: NDD and backfill by others (not logged)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BORE: C5 PROJECT: MOORE PARK APRIL 2018

15.7 – 20.0m

BORE: C5 PROJECT: MOORE PARK APRIL 2018

20.0 – 21.8m

BORE: C18 PROJECT: MOORE PARK APRIL 2018

2.4 – 7.0m

BORE: C18 PROJECT: MOORE PARK APRIL 2018

7.0 – 8.4m

BORE: C20 PROJECT: MOORE PARK APRIL 2018

15.7 – 20.0m

BORE: C20 PROJECT: MOORE PARK APRIL 2018

20.0 – 21.68m

BORE: C21 PROJECT: MOORE PARK APRIL 2018

26.8 – 31.0m

BORE: C21 PROJECT: MOORE PARK APRIL 2018

31.0 – 34.0m

BORE: C24 PROJECT: MOORE PARK MAY 2018

7.6 – 12.0m

BORE: C24 PROJECT: MOORE PARK MAY 2018

12.0 – 13.35m

BORE: C31 PROJECT: MOORE PARK APRIL 2018

31.2 – 35.0m

BORE: C31 PROJECT: MOORE PARK APRIL 2018

35.0 – 36.2m

BORE: C36 PROJECT: MOORE PARK APRIL 2018

15.65 – 20.0m

BORE: C36 PROJECT: MOORE PARK APRIL 2018

20.0 – 21.6m

BORE: C37 PROJECT: MOORE PARK APRIL 2018

31.0 – 35.0m

BORE: C37 PROJECT: MOORE PARK APRIL 2018

35.0 – 38.08m

BORE: 101D PROJECT: SFSR MARCH 2019

24.80 – 29.00m

BORE: 101D PROJECT: SFSR MARCH 2019

29.00 – 30.80m

BORE: 102 PROJECT: SFSR FEBRUARY 2019

20.60 – 25.00m

BORE: 102 PROJECT: SFSR FEBRUARY 2019

25.00 – 26.60m

BORE: 103 PROJECT: SFSR FEBRUARY 2019

6.00 – 10.00m

BORE: 103 PROJECT: SFSR FEBRUARY 2019

10.00 – 15.00m

BORE: 103 **PROJECT: SFSR** **FEBRUARY 2019**

15.00 – 17.34m

BORE: 104 **PROJECT: SFSR** **FEBRUARY 2019**

4.15 – 5.90m

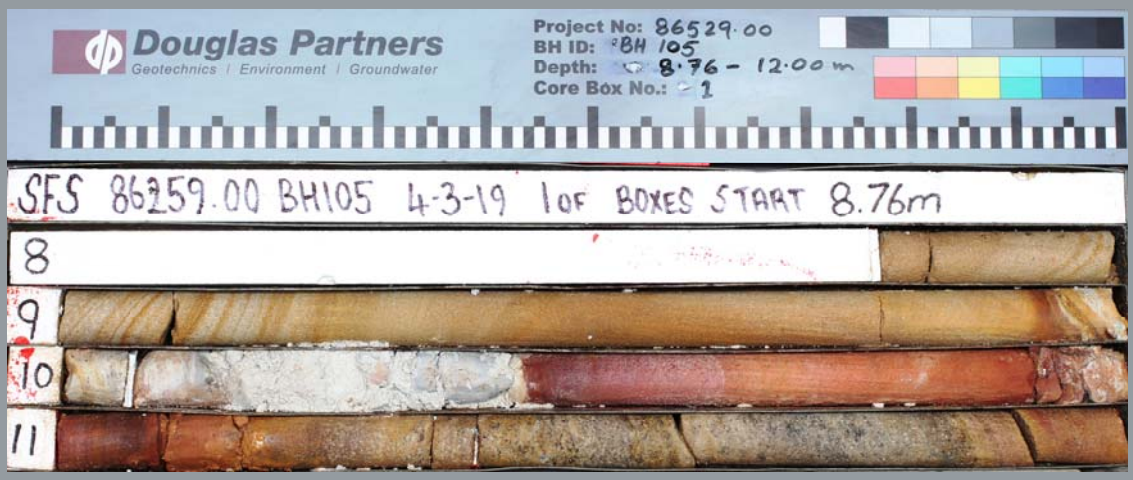
BORE: 104A PROJECT: SFSR FEBRUARY 2019

4.20 – 9.00m

BORE: 104A PROJECT: SFSR FEBRUARY 2019

9.00 – 13.06m

BORE: 105 PROJECT: SFSR MARCH 2019



8.76 – 12.00m

BORE: 105 PROJECT: SFSR MARCH 2019

12.00 – 16.07m

BORE: 106 PROJECT: SFSR FEBRUARY 2019

17.55 – 22.00m

BORE: 106 PROJECT: SFSR FEBRUARY 2019

22.00 – 24.48m

BORE: 107 PROJECT: SFSR MARCH 2019

19.17 – 24.00m

BORE: 107 PROJECT: SFSR MARCH 2019

24.00 – 25.96m

BORE: 108 PROJECT: SFSR MARCH 2019

20.15 – 24.00m

BORE: 108 PROJECT: SFSR MARCH 2019

24.00 – 29.00m

BORE: 108 PROJECT: SFSR MARCH 2019

29.00 – 30.44m

Appendix D

Previous Test Results

BOREHOLE LOG

CLIENT: Australian Rugby Union
PROJECT: Australian Rugby Development Centre
LOCATION: Moore Park Road, Moore Park

SURFACE LEVEL: 42.5 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: G6
PROJECT No: 84881
DATE: 1 - 2/7/2015
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
42	0.02	ASPHALT							A/E			
	0.3	FILLING - brown-grey, slightly clayey, gravelly fine to coarse grained sand filling (fine to coarse igneous gravel), moist							A/E			
	1	FILLING - brown, slightly gravelly, clayey fine to coarse grained sand filling (fine to coarse sandstone and brick with some ironstone, concrete, shale and charcoal gravel) with a trace of ceramic tile and glass, moist							A/E			
41	1.4	0.7m: slightly more clayey							S/E			8,12,9 N = 21
	2	SAND - medium dense, brown, fine to medium grained sand with some silt, moist 1.7m: yellow-brown 2.1m: light grey then grey 2.5m: light grey, yellow-brown and brown with some slightly clayey bands and a trace of fine to coarse ironstone gravel							S			5,6,5 N = 11
40	3											
39	4								S			7,9,10 N = 19
38	5											
	5.0	SANDY CLAY - very stiff, orange-brown, sandy clay							S			9,10,10 N = 20
37	6											
36	7								S			8,8,10 N = 18
35	8											
	8.0	CLAYEY SAND - medium dense, red-brown, clayey, fine to medium grained sand							S			9,10,11 N = 21
34	9							Note: Unless otherwise stated, rock is fractured along rough planar bedding dipping 0°- 10°				
33												

RIG: Scout 1 **DRILLER:** SS **LOGGED:** KM **CASING:** HW to 4.0m

TYPE OF BORING: Solid flight auger to 4.0m; Rotary to 10.0m; NMLC-Coring to 14.66m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 12.0m (screen 3.0-12.0m; gravel 2.0-12.0m; bentonite 1.5-2.0m; gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Australian Rugby Union
PROJECT: Australian Rugby Development Centre
LOCATION: Moore Park Road, Moore Park

SURFACE LEVEL: 42.5 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: G6
PROJECT No: 84881
DATE: 1 - 2/7/2015
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low / Very Low / Low / Medium / High / Very High / Ex High)	Water	Fracture Spacing (m) (0.01 / 0.05 / 0.10 / 0.50 / 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
32								10m: CORE LOSS: 950mm				
31	10.95	SANDY CLAY - red-brown with some yellow and grey mottling, sandy clay with a trace of medium to coarse ironstone gravel 12.0m: grey with some red-brown and yellow mottling							C	68	68	
30	12.19	SANDSTONE - high strength, moderately weathered, slightly fractured then unbroken, red-brown, fine to coarse grained sandstone						12.25m: B15°, pl, cly, 2mm 12.57-12.76m: B (x3) 10°- 15°, pl, ti-cly				PL(A) = 1.1
29								13.42m: J45°, pl, ro, cln	C	100	100	PL(A) = 3.1
28	14.66	Bore discontinued at 14.66m										PL(A) = 2.1
27												
26												
25												
24												
23												

RIG: Scout 1 **DRILLER:** SS **LOGGED:** KM **CASING:** HW to 4.0m

TYPE OF BORING: Solid flight auger to 4.0m; Rotary to 10.0m; NMLC-Coring to 14.66m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 12.0m (screen 3.0-12.0m; gravel 2.0-12.0m; bentonite 1.5-2.0m; gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Australian Rugby Union
PROJECT: Australian Rugby Development Centre
LOCATION: Moore Park Road, Moore Park

SURFACE LEVEL: 45.9 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: G7
PROJECT No: 84881
DATE: 2 - 3/7/2015
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
45	0.1	ASPHALT							A/E			
	0.2	FILLING - grey, slightly sandy, slightly clayey, fine to coarse gravel filling (igneous gravel), moist							A/E			
	1	FILLING - brown, slightly clayey, slightly gravelly, fine to medium grained sand filling (fine to coarse concrete and brick gravel) with a trace of slag, moist 0.5m: orange-brown							A/E			
44	1.8	FILLING - brown, silty clay filling, moist										
	2											
	2.2	FILLING - brown, sandy clay filling with some fine to medium gravel (concrete and sandstone) with a trace of brick, ironstone, charcoal and slag, moist 3.0m: slightly gravelly band (sandstone)							A/E			
43	3											
	4								A/E			
42	4.2	SILTY SAND - grey then brown, fine to medium grained silty sand, moist							A			
	5											
41												
	6											
40	6.7	CLAYEY SAND - medium dense, yellow-brown, fine to medium grained clayey sand							S			8,11,16 N = 27
	7											
39	8.0	SANDY CLAY - very stiff, grey, red-brown and yellow-brown mottled, sandy clay							S			6,11,12 N = 23
	8											
38	9.5	CLAYEY SAND - medium dense, red-brown, clayey, fine to medium grained sand										
	9											
37												
36												

RIG: Scout 1 **DRILLER:** SS **LOGGED:** KM **CASING:** HW to 5.5m

TYPE OF BORING: Solid flight auger to 5.5m; Rotary to 13.0m; NMLC-Coring to 16.05m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 16.0m (screeen 16.0-4.0m; gravel 16.0-3.0m; bentonite 3.0-2.0m; gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

BOREHOLE LOG

CLIENT: Australian Rugby Union
PROJECT: Australian Rugby Development Centre
LOCATION: Moore Park Road, Moore Park

SURFACE LEVEL: 45.9 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: G7
PROJECT No: 84881
DATE: 2 - 3/7/2015
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear F - Fault)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
35	11	CLAYEY SAND - medium dense, red-brown, clayey, fine to medium grained sand *(continued)*							S			9,10,10 N = 20
34	12							Note: Unless otherwise stated, rock is fractured along rough planar bedding dipping 0°- 10°				
33	13 13.0	SANDSTONE - medium strength, slightly weathered, slightly fractured, light grey-brown, medium grained sandstone						13.22m: J80°, un, fe, cly, 5mm				PL(A) = 0.6
32	13.9 14	SANDSTONE - high and high to very high strength, slightly weathered, slightly fractured and unbroken, light grey-brown, medium to coarse grained sandstone							C	100	99	PL(A) = 2.9
31	15							14.65m: B0°, fe, cly, 5mm				PL(A) = 3
30	16 16.05	Bore discontinued at 16.05m						15.43m: B5°, cly vn, ti				PL(A) = 2.8
29	17											
28	18											
27	19											
26												

RIG: Scout 1 **DRILLER:** SS **LOGGED:** KM **CASING:** HW to 5.5m

TYPE OF BORING: Solid flight auger to 5.5m; Rotary to 13.0m; NMLC-Coring to 16.05m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Standpipe installed to 16.0m (screeen 16.0-4.0m; gravel 16.0-3.0m; bentonite 3.0-2.0m; gatic cover)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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BOREHOLE LOG

CLIENT: Sydney Cricket & Sports Ground Trust
PROJECT: Bradman & Noble Stands Redevelopment
LOCATION: SCG, Driver Avenue, Moore Park

SURFACE LEVEL: 38.5 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BN2
PROJECT No: 45867
DATE: 11 Nov 08
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Graphic Log	Type	Core Rec. %	RQD %	Test Results & Comments
38	0.1	ASPHALTIC CONCRETE					
	0.3	CONCRETE					
		FILLING - light grey to grey, clayey sand and gravel filling		A/E			PID=3.4ppm
37	1.0	FILLING - brown, fine grained sand filling, humid		A/E			PID=2.3ppm
				S			10,13,15 N = 28 PID=1.0ppm
36	2.0	SAND - medium dense, light brown, fine grained sand, humid		A			
35	3			S			8,10,12 N = 22 PID=1.5ppm
	3.8	SAND - dense, light grey brown, medium grained sand, moist					
34	4			S			14,19,19 N = 38
	5						
33	5.3	SAND - dense, light grey brown, fine to medium grained sand, moist					
	6			S			11,18,22 N = 40
32	7						
31	7.8	SAND - very dense, yellow brown, fine to medium grained sand with a trace of clay/silt		S			21,25/240mm refusal
30	8						
	9.0	SAND - medium dense to dense, yellow brown, fine to medium grained sand with a trace of clay/silt		S			8,12,19 N = 31
29	9						

Degree of Weathering: EW, HW, MW, SW, FS, FR
Rock Strength: Ex Low, Very Low, Low, Medium, High, Very High, Ex High
Water
Fracture Spacing (m): 0.01, 0.05, 0.10, 0.50, 1.00
Discontinuities: B - Bedding, J - Joint, S - Shear, D - Drill Break

RIG: Edson 3000 Truck **DRILLER:** John Simon (APS) **LOGGED:** SI **CASING:** NW to 14.0m

TYPE OF BORING: Diacore to 0.3m; Solid flight auger to 5.5m; Rotary drilling to 22.50m; NMLC-Coring to 28.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering (inferred groundwater level is at about to 5.5m)

REMARKS: Cave in at 5.3m whilst augering
E = Environmental sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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BOREHOLE LOG

CLIENT: Sydney Cricket & Sports Ground Trust
PROJECT: Bradman & Noble Stands Redevelopment
LOCATION: SCG, Driver Avenue, Moore Park

SURFACE LEVEL: 38.5 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BN2
PROJECT No: 45867
DATE: 11 Nov 08
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Graphic Log	Type	Core Rec. %	RQD %	Test Results & Comments
28	10.5	SAND - medium dense to dense, yellow brown, fine to medium grained sand with a trace of clay/silt *(continued)*					
		SAND - loose to medium dense, red brown, fine to medium grained sand with trace of clay					
27	11			S			9,7,4 N = 11
26	12						
25	13						
	13.2	SANDY CLAY - stiff, red brown and brown, fine to medium grained sand, wet					
24	14						
	14.2	CLAYEY SAND - medium dense, red brown and brown, fine to medium grained clayey sand		S			4,5,6 N = 11
23	15						
22	16						
	16.5	CLAYEY SAND - loose, red brown and brown, fine grained clayey sand					
21	17			S			4,3,3 N = 6
20	18						
19	19						

Degree of Weathering: EW, HW, MW, SW, FS, FR
Rock Strength: Ex Low, Very Low, Low, Medium, High, Very High, Ex High
Water
Fracture Spacing (m): 0.01, 0.05, 0.10, 0.50, 1.00
Discontinuities: B - Bedding, J - Joint, S - Shear, D - Drill Break

RIG: Edson 3000 Truck **DRILLER:** John Simon (APS) **LOGGED:** SI **CASING:** NW to 14.0m

TYPE OF BORING: Diacore to 0.3m; Solid flight auger to 5.5m; Rotary drilling to 22.50m; NMLC-Coring to 28.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering (inferred groundwater level is at about to 5.5m)

REMARKS: Cave in at 5.3m whilst augering
E = Environmental sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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BOREHOLE LOG

CLIENT: Sydney Cricket & Sports Ground Trust
PROJECT: Bradman & Noble Stands Redevelopment
LOCATION: SCG, Driver Avenue, Moore Park

SURFACE LEVEL: 38.5 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BN2
PROJECT No: 45867
DATE: 11 Nov 08
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering (EW HW MW SW FS FR)	Graphic Log	Rock Strength (Ex Low, Very Low, Low, Medium, High, Very High, Ex High)	Water	Fracture Spacing (m) (0.01, 0.05, 0.10, 0.50, 1.00)	Discontinuities (B - Bedding J - Joint S - Shear D - Drill Break)	Sampling & In Situ Testing: Type	Core Rec. %	RQD %	Test Results & Comments
18	20.0	SAND - medium dense to dense, orange and brown, fine to medium grained sand, some clay and organic matter							S			8,12,16 N = 28
17	21.5	SANDSTONE - extremely low strength, brown, fine to medium grained sandstone with some clay						Note: Unless otherwise stated, rock is fractured along rough planar bedding planes dipping 0°- 10°				
16	22.5	SANDSTONE - high then medium strength, moderately weathered, slightly fractured, brown, medium to coarse grained sandstone						22.5-23.86m: D (x6) 22.86m: B0°, clay veneer 23.08m: B5°, clay veneer 23.08-23.7m: D (x6) (0.01 to 0.03m interval) 23.7m: CORE LOSS: 520mm 24.22-24.62m: D (x9) (0.02 to 0.05m interval)	C	82	82	PL(A) = 1.2MPa PL(A) = 0.9MPa PL(A) = 1MPa
15	23.7											
14	24.6	SANDSTONE - medium to high then medium strength, fresh, slightly fractured, light grey, medium grained sandstone with some carbonaceous flakes										PL(A) = 0.8MPa
13	26.15	SANDSTONE - medium to high strength, fresh, slightly fractured, light grey to grey, medium grained sandstone with low strength siltstone clasts and brecciated in parts 27.2-27.55m: low strength siltstone						26.12m: J20° 26.12-26.30m: siltstone band 26.3m: B10°, clayey 26.5m: J45°, smooth 26.75m: B0°, clay band 26.82m: J25°, clayey 26.84m: CORE LOSS: 60mm 26.95m: CORE LOSS: 50mm 27.45m: J45°, 20mm crushed rock 27.55m: J35° 27.66m: CORE LOSS: 60mm 27.79m: B0°, clay	C	91	82	PL(A) = 0.2MPa PL(A) = 1MPa PL(A) = 0.4MPa PL(A) = 1.4MPa
12	26.84											
11	26.95											
10	27.66											
9	27.8	SANDSTONE - high strength, fresh, slightly fractured, light grey sandstone										
	28.5	**Bore discontinued at 28.5m**										
	29											

RIG: Edson 3000 Truck **DRILLER:** John Simon (APS) **LOGGED:** SI **CASING:** NW to 14.0m

TYPE OF BORING: Diacore to 0.3m; Solid flight auger to 5.5m; Rotary drilling to 22.50m; NMLC-Coring to 28.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering (inferred groundwater level is at about to 5.5m)

REMARKS: Cave in at 5.3m whilst augering
E = Environmental sample

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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BOREHOLE LOG

CLIENT: Sydney Cricket & Sports Ground Trust
PROJECT: Proposed New Trust Offices
LOCATION: Moore Park Road, Moore Park

SURFACE LEVEL: 47.2 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 44783
DATE: 04 Apr 07
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
47.2	0.05	ASPHALT							
	0.17	ROADBASE GRAVEL							
	0.45	FILLING - light grey and orange sandstone filling. Moist							
46.2	1	FILLING - dark grey sandy clay filling, with some ironstone and sandstone gravel, brick rubble, wood fragments and charcoal. Moist		S	1.75 1.8		5,6,4 N = 10		
45.2	2								
44.2	3			S	2.9		2,4,8 N = 12		
					3.35 3.5		Increased drilling resistance		
43.2	4			S	4.4		17,18,20/120mm refusal SPT hammer bouncing from 4.45m		
42.2	5				4.82				
	5.5	SAND - loose, yellow fine to medium grained sand, with a trace of clay. Humid		S	5.95		5,5,4 N = 9		
41.2	6				6.4				
	6.6	SAND - loose, yellow fine to medium grained sand, with some clay. Moist							
40.2	7			S	7.45		3,3,4 N = 7		
					7.9				
39.2	8	- orange clayey sand and wet from about 8.5-9.4m							
38.2	9	- becoming medium dense (9.0m)		S	9.0		10,12,13 N = 25		
		- yellow and brown from about 9.5-10.5m			9.45				

RIG: Edson 3000 **DRILLER:** J Simon **LOGGED:** P Valenti **CASING:** Uncased

TYPE OF BORING: Solid flight auger to 15.1m

WATER OBSERVATIONS: Free groundwater observed at 14.2m (1/2 hour after hole completion)

REMARKS: Hand slotted PVC monitoring well installed at completion of drilling

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U$_x$	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials: PWD
Date: 26/4/7

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BOREHOLE LOG

CLIENT: Sydney Cricket & Sports Ground Trust
PROJECT: Proposed New Trust Offices
LOCATION: Moore Park Road, Moore Park

SURFACE LEVEL: 47.2 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 44783
DATE: 04 Apr 07
SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Well Construction Details
37.2		SAND - loose, yellow fine to medium grained sand, with some clay. Moist *(continued)*							
	10.5	CLAYEY SAND - medium dense, yellow and orange clayey sand. Moist							
36.2	11								
35.2	12			S	12.0 12.5		11,12,13 N = 25		
34.2	13	- becoming light grey and wet from about 13.5-14.0m							
33.2	14 14.0	CLAYEY SAND - medium dense, orange red fine to medium grained, clayey sand. Saturated							
32.2	15 15.1	Bore discontinued at 15.1m - limit of investigation							
31.2	16								
30.2	17								
29.2	18								
28.2	19								

RIG: Edson 3000 **DRILLER:** J Simon **LOGGED:** P Valenti **CASING:** Uncased

TYPE OF BORING: Solid flight auger to 15.1m

WATER OBSERVATIONS: Free groundwater observed at 14.2m (1/2 hour after hole completion)

REMARKS: Hand slotted PVC monitoring well installed at completion of drilling

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
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U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials: RWD
Date: 26/4/7

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