Preliminary Site Investigation with Supplementary Sampling

Corner of Appin Road and Kellerman Drive St Helens Park NSW 2560

Prepared for Premise Pty Ltd

April 2021

New South Wales

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01 April 2021

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Acknowledgements and Copyright

The following imagery and documentation are attributed to and gratefully acknowledged:

Location Map:	Google Maps
Aerial Photography:	NSW Department of Land Property Information Google Earth Pro, Google Maps, Nearmap

All other sources are referenced as footnotes within the document.

1 Executive Summary

Canopy Enterprises Pty Ltd (Canopy) was engaged by Emily Elliott of Premise on behalf of others (Client) to undertake a Preliminary Site Investigation with Supplementary Sampling and Analysis (PSI-SS) at the Property located at the corner of Appin Road and Kellerman Drive, St Helens Park NSW 2560 (the Site).

Canopy understands that a PSI-SS is required to establish, that the Site is likely to be suitable (or can be made suitable) as part of the gateway determination which includes the rezoning of the Property for use as a neighbourhood centre with an increase in height of Buildings limit (currently zoned as Low Density Residential). After the rezoning, the proposed land use includes the construction of a shopping precinct, restaurant and multi-level residential apartments, as outlined in the Site Plans referenced in Table 1. The Summary of Site Details is contained in Table 1 of Section 3.1 and provided in Appendix A. There have been several contaminated land related investigations conducted on the Property known as 5210 Appin road in which the Site forms a portion there of. A Detailed Site Investigation was undertaken for part of the Property in September 2014 by SMEC Testing Services Pty Ltd (SMEC Report), and a Groundwater Assessment was undertaken in 2018 by STS GeoEnvironmental Pty Ltd (STS Report). In October 2020, Ventia Utility Services Pty Ltd issued a Groundwater Monitoring Event Report (Ventia Report).

This investigation has been undertaken in consideration of and in deference to the relevant guidelines and regulatory documents or part thereof, as presented in Section 12 with regard for the site specific circumstances. In particular the Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (EPA 2020) (Reporting Guidelines), NEPM (2013) and SEPP 55 (among others).

The full suite of findings and conclusions and recommendations are outlined in Sections 10 and 11, however the salient points can be summarised as follows:

1. The Site is located in a predominantly residential area with the exception of the service station neighbouring the Site to the west. The Site has a size of approximately 5,440 m^2.
2. The Site's history can reasonably be summarised as a block of land that was possibly used for agricultural purposes, which may have included orchard farming. In circa 2017, a service station was constructed on the Property. The Site itself has remained vacant until the present day.
3. No stress was observed in the vegetation and no surface staining or olfactory evidence of contamination were encountered.
4. A total of nine boreholes were drilled across the Site as part of the investigation's sampling program, with a total of 13 primary soil samples and three water samples submitted to the laboratory and analysed for a broad range of contaminants.
5. The subsurface of the Site was found to consist of a layer of fill material ranging in thickness from 3.0 m and 4.25 m and was followed by natural silty clay of colours varying between orange-brown to grey. This was followed by dark grey shale.
6. Groundwater in form of a distinct wet layer was only encountered in Boring B3 at a depth of approximately 8.5 mbgl. No water accumulated in Borings B1 and B2. Water accumulating in Boring B3 was sampled.
7. Groundwater flow direction is inferred to be in a north to north-eastern direction;

8. The sampling program conducted as part of this investigation targeted a wide range of target contaminants in shallow fill materials found across the Site.
9. Results of the laboratory analysis undertaken showed concentrations of all analytes to be below the adopted site criteria.

Based on the results of the investigation the following conclusions are provided:

1. Canopy considers that the subject Site is similar in nature to the greater Property, as described in the SMEC Report prior to development of the now adjoining service station. The SMEC Report therefore is considered relevant to the investigation herein given the site-specific circumstances. Canopy's findings, recommendations and conclusions are generally commensurate with those in the SMEC Report, noting in particular the key conclusion of the SMEC Report which stated as follows:

   - *'Based on the results of this DSI, the site is considered to be suitable for a commercial/industrial land use, including the service station development which is proposed. However, the operator of the service station should be requested to provide confirmation that an appropriate environmental performance monitoring program will be implemented as a condition of their lease agreement. As a minimum, this should include a leak detection system for underground petroleum storage systems (UPSSs) in accordance with EPA's Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (UPSS Regulations), a key component of which is the installation of, and regular sampling from, groundwater monitoring wells. The performance monitoring program should be documented in an Environment Protection Plan (EPP), prepared in accordance with the UPSS Regulations'*

2. Based on the above Canopy considers the Site suitable for the proposed land use without further environmental assessment.
3. As a matter of prudence, the following key requirements are noted:
   - The Construction Environmental Management Plan (CEMP) (or equivalent document) should include an 'unexpected finds' protocol.
   - Should any evidence become apparent during site/earth works that asbestos or asbestos fragments (or other contaminants including hydrocarbon odours) are present in soils then appropriate actions should be undertaken in accordance with relevant guidelines and regulations.
   - All soils to be taken offsite must be classified in accordance with the EPA Waste Guidelines Part 1: Classifying Waste (2014) prior to being disposed of at a landfill facility authorised to receive the material.

2 Project Introduction

Canopy Enterprises Pty Ltd (Canopy) was engaged by Emily Elliott of Premise on behalf of others (Client) to undertake a Preliminary Site Investigation with Supplementary Sampling and Analysis (PSI-SS) at the Property located at the corner of Appin Road and Kellerman Drive, St Helens Park NSW 2560 (the Site).

Canopy understands that a PSI-SS is required to establish, that the Site is likely to be suitable (or can be made suitable) as part of the gateway determination which includes the rezoning of the Property for use as a neighbourhood centre with an increase in height of Buildings limit (currently zoned as Low Density Residential). After the rezoning, the proposed land use includes the construction of a shopping precinct, restaurant and multi-level residential apartments, as outlined in the Site Plans referenced in Table 1. The Summary of Site Details is contained in Table 1 of Section 3.1 and provided in Appendix A. There have been several contaminated land related investigations conducted on the Property known as 5210 Appin road in which the Site forms a portion there of. A Detailed Site Investigation was undertaken for part of the Property in September 2014 by SMEC Testing Services Pty Ltd (SMEC Report), and a Groundwater Assessment was undertaken in 2018 by STS GeoEnvironmental Pty Ltd (STS Report). In October 2020, Ventia Utility Services Pty Ltd issued a Groundwater Monitoring Event Report (Ventia Report).

This investigation has been undertaken in deference to the relevant guidelines and regulatory documents or part thereof with regard for the site specific circumstances, as presented in Section 11 (among others), noting in particular the EPA Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (2020) (Reporting Guidelines), NEPM (2013) and SEPP 55.

2.1 Previous Investigations

Previous investigations conducted within the Site are as follows:

SMEC Testing Services Pty Ltd conducted a Detailed Site Investigation (DSI) at the Site in April 2014 and submitted its findings in a report titled Detailed Site Investigation, Land at Lot 5210 Appin Road, St Helens Park, New South Wales with Project No. 19649/4204C and Report No. 14/2134 dated September 2014.

The DSI was commissioned by MIR Group of Companies Presville Developments Pty Ltd for the following purposes:

"The objectives of the investigation were to determine the nature and extent of any soil contamination at the site that may be significant for a commercial/industrial land use setting. Further, as the site is proposed to be redeveloped as a service station, the investigation was also to establish the baseline environmental condition of the site against which the results of future environmental monitoring can be compared."

The conclusions presented in that report were as follows:

- *"Soil was sampled from a total of eight locations across the site for this investigation. The results of the sampling program show that that the concentrations of chemical contaminants measured in the soils across the site are low and well below criteria that are protective of human-health for a commercial/industrial land use setting. Further, the*

concentrations of chemical contaminants measured in the soils on the site are representative of the natural background levels in the regional soil formation, and the groundwater beneath the site is not likely to be contaminated.; and

- *Based on the results of this DSI, the site is considered to be suitable for a commercial/industrial land use, including the service station development which is proposed. However, the operator of the service station should be requested to provide confirmation that an appropriate environmental performance monitoring program will be implemented as a condition of their lease agreement. As a minimum, this should include a leak detection system for underground petroleum storage systems (UPSSs) in accordance with EPA's Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (UPSS Regulations), a key component of which is the installation of, and regular sampling from, groundwater monitoring wells. The performance monitoring program should be documented in an Environment Protection Plan (EPP), prepared in accordance with the UPSS Regulations."*

STS GeoEnvironmental Pty Ltd conducted a Groundwater Assessment at the Site in June 2017 and submitted its findings in a report titled Groundwater Assessment for MIR Group of Companies at Lot 5210 Appin Road, St Helens Park, New South Wales with Project No. 19649/8197C and Report No. 17/1221A dated May 2018. The Groundwater Assessment was commissioned by MIR Group of Companies.

The objectives of the investigation are as follows:

"The objectives of the investigation were to determine if the site is likely to be suitable for an ongoing commercial/industrial use in its current condition."

The conclusions presented in that report were as follows:

- *"The results of the current groundwater sampling and testing show that the concentrations of contaminants measured in the groundwater samples are below the adopted screening criteria, except for heavy metals cadmium, copper, nickel and zinc. However, the concentrations of these heavy metals are expected to be representative of the background concentrations in the regional aquifer rather than being due to on-site sources, and are therefore not considered to be significant."*
- *"Based on the results of the DSI of September 2014 and the current groundwater sampling and testing the site is considered to be suitable for a commercial/industrial land use. Further, the groundwater contaminant concentrations determined during the current groundwater assessment can be used as baseline values for the site prior to the commencement of the service station operations."*

Ventia Utility Services Pty Ltd conducted Groundwater Monitoring at the Site in October 2020 and submitted its findings in a report titled 7-Eleven Groundwater Monitoring Event Report with Report No. 2316 dated October 2020.

The conclusions presented in that report were as follows:

- *"Analyte concentrations are shown in Table 2 – Analytical Summary."*
- *"All hydrocarbon concentrations are stable or display no trend as shown in Table 4 – Trend Analysis."*

2.2 Scope of Work

The scope of works for this assessment includes:

- Review of all information provided to Canopy by the Client of information relating to the current Site condition including: SMEC Testing Services Pty Ltd DSI, STS GeoEnvironmental Pty Ltd Groundwater Assessment and Ventia Groundwater Monitoring.
  - Geological maps of the area;
  - Groundwater data; and
  - Acid Sulfate Soil Risk Map.
  - History and EPA records
- Site history review comprising:
  - Historical aerial photography;
  - Historical Land Title Search;
  - NSW Environmental Protection Authority (EPA) Contaminated Land Searches;
  - Historical contamination assessments (if any); and
  - Historical Information available under reasonable endeavour.
- Update the CSM presented in the previous investigations;
- Update and identify potential Areas of Environmental Concern (AECs) and Associated Contaminants of Potential Concern (COPCs) presented in the previous investigations;
- A detailed site inspection of the Site including drilling and sampling of soils;
- Laboratory analysis of select samples for COPCs; and
- Preparation of this Report.

2.3 Aims and Objectives

Details of the project are provided in the Summary of Site Details as contained in Table 1 in Section 3.1 and provided in Appendix A.

The PSI-SS has been prepared with deference to the NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (2020) (Reporting Guidelines) and the 2015 NSW EPA Sampling Design Guidelines (1995) (SDGs), albeit the intent and core purpose of the SDGs is for the undertaking of Detailed Site Investigations (DSI). It is also noted the SDGs are under major revision and have been recently issued by the EPA as draft for purposes of industry comment. Accordingly, it is noted that the PSI-SS has been designed to take account of the SDGs (among other documentation) and site-specific project imperatives with regard for the physical setting and limitations.

To enable the proposed works to proceed from an environmental investigation perspective, a fundamental objective of the PSI-SS herein is to establish with reasonable certainty that contamination is not present at any levels of concern or otherwise significant. Further, if contamination is present, the contamination is at levels which are considered acceptable for the proposed land use with regard to identified land use thresholds and other relevant sections of NEPM (2013).

If contamination is however found to be present at unacceptable levels, the PSI-SS will determine, if the Site can be made suitable for the proposed land use noting the intent of Clause 7 (1) (a-c) of SEPP 55. Mechanisms such as disposal of contaminated material off-site to a licenced land fill facility in accordance with the EPA Waste Guidelines Part 1: Classifying Waste (2014) may in this case be appropriate. Determination will also be provided with respect of whether the requirement for a DSI is triggered under the countenance of SEPP 55 noting in particular Cl 7 (3).

The central aims and objectives of the PSI-SS are as follows:

- Conduct an investigation based on the findings of the previous investigations outlined above in general compliance with contemporary reporting standards and industry expectations.
- to identify any evidence which may suggest that the conditions or the contamination profile at the Site have materially altered since when SMEC and STS undertook their assessments.
- to confirm or (otherwise) SMEC's principal conclusion stated as follows:

  'In our opinion the site [sic] is considered to be suitable for development as a residential subdivision.'

- to confirm (or otherwise) that no further environmental assessment is required.

3 Site Information and Surroundings

3.1 Site Identification

The Site details are summarised in Table 1 below:

Table 1: Summary of Site Details

Subject	Description
Site description (The Site)	Part of Lot 6202/DP 1203930 Corner of Appin Road and Kellerman Drive St Helens Park NSW 2560 (excluding the existing service station)
Site Area approximately	Approximately 5,440 m^2 (Property area approximately 7625 m^2)
The Client:	Emily Elliott Town Planner Premise Pty Ltd (on behalf of others)
Council and LEP	Campbelltown City Council Campbelltown Local Environmental Plan 2015 (Updated 2021)
Present and proposed zoning	Present zoning: R2 – Low Density Residential Proposed zoning: B1 – Neighbourhood Centre
Reason for Assessment	Proposed development of a neighbourhood centre, including a supermarket, shops, restaurant, takeaway shops, gymnasium, residential apartments and an underground parking facility.
Approximate AHD	138 - 144 m AHD
Supporting relevant information provided to Canopy:	Site Plans: Clarke Hopkins Clarke Ref: 170164/SK01-SK08 dated January 2019; Richmond & Ross Pty Ltd Ref: P1008-SK2 dated 8 July 2002. Campbelltown City Council Determination of Application Ref: F886/2002 dated 2 April 2003. Statement of Environmental Effects: Acclaim Australia Pty Ltd. Proposal Details: Corner of Appin Road and Kellerman Drive, St Helens Park (No. PP_2020_CAMPB_005_00). Detailed Site Investigation: SMEC Testing Services Pty Ltd Ref: 14/2134 dated September 2014. Groundwater Assessment: STS GeoEnvironmental Pty Ltd Ref: 17/1221A dated May 2018. Groundwater Monitoring Event Report: Ventia Utility Services Pty Ltd dated October 2020.
Additional Information	This PSI-SS has been undertaken by suitably qualified and experienced personnel. A PSI-SS report will be provided with reference to relevant guidelines and regulations or part thereof, in particular the EPA Consultants Reporting on Contaminated Land Guidelines (2020), NEPM (2013), SEPP 55 and the LEP.

Figure 1 Location Map

Corner of Appin Rd & Kellerman Drive, St Helens Park NSW 2560 (Source: Nearmap & Whereis)

3.2 Site Description / Land Use

The Site consists of an L-shaped parcel of land, which forms a portion of the greater Property which is situated directly east of Appin Road and south of Kellerman Drive. The majority of the Site consists of a vacant grass covered area. A concrete driveway is located toward the northern section of the Site which runs through to the central portion of the Site before connecting to a service station located toward the south-western portion of the greater Property.

Neighbouring the Site are residential buildings located to the south and east. To the west, opposite Appin Road are additional residential buildings. Parklands are apparent to the north of the Site, opposite Kellerman Drive.

Site photographs are provided in Appendix B.

3.3 Topography

Review of the regional topographic maps from SIX Maps[1] and Free Map Tools[2] indicated that the Site is located at approximately 138 - 144 m AHD.

The general area surrounding the Site declines to the north-east at a rate of approximately 4%. The Site itself follows the general slope of the area, with a decline towards the north-east.

3.4 Hydrology and Hydrogeology

The SMEC Report describes the Hydrology and Hydrogeology of the Site as follows[3]:

"A search of the Department Natural Resources (DNR) groundwater database was also performed to identify wells in the vicinity of the site. The search results identified no registered groundwater monitoring wells within 1 km of the site.

Based on the observations made during our on-site soil sampling activities, the results of the groundwater database search and our review of the site geology and regional groundwater conditions, a summary of the site hydrogeology is summarised in Table 5.1.

TABLE 5.1 – SITE HYDROGEOLOGY

Aquifer Type and Lithology:	*Clay and Shale[1,2]*
Perched groundwater:	*Not expected to be present[1,2]*
Depth to Aquifer at Site:	*Approximately 5-10 m[1,2]*
Local Groundwater Flow Direction:	*South-East[1]* (Canopy's addition: see below discussion)
Regional Groundwater Flow Direction:	*East to South-East[1]* (Canopy's addition: see below discussion)
Receiving Environments:	*Local creek, located approximately 800 m to the east of the site[1].*

[1] Inferred conditions based on site/regional geology and geomorphology.
[2] Actual conditions based on observations made during on-site drilling."

1 http://maps.six.nsw.gov.au/
2 https://www.freemaptools.com/elevation-finder.htm
3 Table 5.1 is only to be used as a reference to the SMEC report table 5.1 and it's findings

Canopy also conducted an additional search of the NSW Office of Water Online Database[4] to identify if any recent groundwater bores had been created within the vicinity of the Site, since the STS Report was generated. The search indicated that there were no additional boreholes within a 1,000 m radius of the Site.

In their 2017 groundwater assessment, STS installed and sampled three monitor wells at the service station site. The recorded depths to groundwater in the three wells ranged between 3.5 m below the top of the PVC pipe in MW3 to 4.42 m in MW2.

The closest surface water body to the Site is Spring Creek located approximately 750 m east of the Site. Spring Creek leads into Georges River a which is a further 900 m south-east of the Site. Stormwater runoff can conceivably reach Spring Creek and then end in Georges River which makes both the Creek and Georges River potential receptors. Considering the large distances of those receptors from the Site would indicate that impact sourced from the Site reaching these receptors is unlikely. This is commensurate with NEPM (2013) which provides a distance of 500 m from a site as a general guide for identification of potential ecological receptors.

The direction of groundwater flow cannot reliably be estimated from the data provided in the above table, but groundwater flow direction in general follows the surface gradient towards the nearest water body. As such it is discerned that groundwater would most likely flow towards the north-east or east.

We acknowledge that STS in their 2017 Groundwater Assessment Report provide an inferred groundwater flow direction in a south-eastern to eastern direction. Considering the local topography which distinctly slopes in a northern to north-eastern direction and the placement of STS's monitor wells, we consider the information regarding groundwater flow direction by STS (see above table) to be a typographic or template error.

3.5 Geology and Soils

The SMEC Report describes the Geology of the Site as follows:

"The Geological Survey of NSW 1:100,000 Wollongong Geological Map (Sheet 9029-9129) shows that the site is underlain by the Triassic Age 'Ashfield Shale' formation, which comprises laminate and dark grey siltstone. The natural soils encountered during the investigation predominantly comprised light grey and orange/red-brown silty clays, which are consistent with residual soils weathered from the regional geological formation. Shale bedrock was also encountered in the boreholes at depths between 0.9 m and 4.5 m below the land surface."

Canopy has reviewed geology and soils and concurs with SMEC's findings.

3.6 Acid Sulfate Soil Risk

The SMEC Report describes the Acid Sulfate Soil risk of the Site as follows:

"Further, our review of the Acid Sulfate Soil (ASS) risk maps available on the EPA NSW Natural Resources Atlas shows that the site is located in an area that is not expected to be affected by ASSs. This is supported by the geology and geomorphology of the site."

[4] https://realtimedata.waternsw.com.au/water.stm

Canopy concurs with the Acid Sulfate Soils Risk findings as contained in the SMEC Report.

3.7 Per and Poly-Fluoroalkyl Substances (PFAS)

PFAS have been globally identified as chemicals of high concern to human health and the environment due to their persistence and bioaccumulation. PFAS in Australia, are mainly used as mist suppressants in the metal plating industry, hydraulic fluid in aircraft, surfactants in the photographic industry, and in some types of fire-fighting foams (Aqueous Film-Foaming Foams (AFFF). Appendix B of the PFAS National Environmental Management Plan[5] documents a range of activities and sources of PFAS.

Information published by NSW Health[6] provides the following information:

NSW Environment Protection Authority (EPA) has established a PFAS Investigation Program and is prioritising sites around NSW where PFASs were used in significant quantities. The investigation is focussing on airports, firefighting training facilities and some industrial sites, particularly those sites where it is determined that there are exposure pathways to these chemicals through bore water usage, surface water usage or fishing.

The EPA's PFAS Investigation Program[7] lists a number of sites across NSW to identify the use and impacts of legacy PFAS. The Site in question is not located close to one of the sites listed in the Investigation Program.

The detailed historical research program described in Section 4 did not indicate that the Site would be a candidate for possible PFAS impact. Based on the above information, PFAS impact on the Site appears unlikely.

5 PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020

6 http://www.health.nsw.gov.au/environment/factsheets/Pages/pfos.aspx

7 https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program

4 History

4.1 General History

The original inhabitants of St Helens Park were the Dharawal People. The earliest land grants in the region were acquired by Samuel Larken and John Wild in 1816, consisting of 90 acres and 110 acres respectively. By 1837, Denfield Homestead had been constructed, which became a focus of farming in the area. This homestead is still standing and is found approximately 230 m south of the Site. By 1886, Larken's parcel of land was combined with surrounding parcels and was sold to George Westgarth. Westgarth soon constructed a private dam across Spring Creek, which is also still standing, approximately 800 m north-east of the Site. By 1887, St Helens Park House had been constructed. The mansion, from which the suburb's name originates, can be seen today, approximately 300 m north-east of the Site. Towards the end of the 19th Century, free settlers bought land closer to the river, where they settled to establish small farms.

By the 1940s, the property that Westgarth had acquired had become known as 'Blowfly Farm' as it was used as a fly spray testing laboratory until 1949. Throughout the majority of the 20th Century, St Helens Park was primarily comprised of bushland and farmland. In 1975, Campbelltown Council decided to facilitate suburban development in the area, and in 1976, St Helens Park was officially created. In the same year, a rubbish tip, located approximately 1.5 km north-east of the Site was converted into a baseball complex. Development remained slow throughout the late 20th Century; in the 1980s, parts of the suburb were still being used for grazing.

Historical aerial photographs indicate that the Site was a rural property throughout the majority of the 20th Century. Development around the Site seems to have begun in the 1980s and steadily continued until the present day. In 2016, development of a service station began in the south-western section of the greater Property, which was completed by 2018.

Sources and supporting information are provided in Appendix F.

4.2 Heritage Registers

The Site or any of its structures were not listed (at the time of preparation of this report) as a heritage item under Australian and NSW Heritage registers or under Schedule 5 of Council's LEP. The search identified two heritage buildings, Denfield Homestead, located on Appin Road, approximately 230 m south of the Site, and St Helens Park House, located at 66 St Helens Park Drive, approximately 350 m north-west of the Site, as items of national or state significance in the vicinity of the Site. Given the distances from the Site and several residential buildings and roads between, the potential for the proposed development impacting these heritage buildings is considered low.

The results of the heritage database search are provided in Appendix C.

4.3 EPA Records

A search was conducted of various NSW EPA Contaminated Land Databases[8] [9] [10] to identify if the Site itself or any surrounding sites within a 500 m radius, are or have previously been registered with the EPA for any contaminated land related activities. The search concluded that the Site itself or within the defined radius were not listed within any of the above databases.

The results of the NSW EPA Contaminated Land Databases search are provided in Appendix D.

4.4 SafeWork NSW Records

Based on the information obtained as part of Canopy's Site History Research procedure along with site observations, a search of records of SafeWork NSW was not considered to be necessary for this Site.

4.5 Historical Land Title Search

SMEC undertook a search of current and past land titles for the Property. Canopy reviewed and was in agreement with the searches undertaken by SMEC and performed additional searches. Results are summarised in Table 2 below[11]:

Table 2: Summary of Historical Land Titles Information

Year	Purchaser/Leasers /Activity
"1911 - 1939	*Leila Helen Roberts"*
"1939 - 1972	*Mary Olivia Riley wife of William Riley (farmer)"*
"1972 – present	*J.M Associated Investments (Dulwich Hill) Pty Limited and G.M Amalgamated Investments (Dulwich Hill) Pty Limited"*
Leased in 2019	7-Eleven Stores Pty Ltd

The title certificates revealed that the Property has been owned by various individual entities up until 1972. After 1972, the Property itself has had numerous deposited plans summitted, with the most recent property size of approximately 7,625 m^2 in 2017. In 2019 the Property was leased by 7-Eleven Stores Pty Ltd.

There are no indicators that the Site has been used for any purposes that would cause excessive contamination. Copies of the selected historical property searches, recent deposited plans and lease certificates as reviewed by Canopy are included in Appendix E.

[8] NSW EPA Contaminated Land List Data Source: Environment Protection Authority - List of NSW contaminated sites notified to EPA.

[9] Contaminated Land Records of Notice Data Source: Environment Protection Authority - Contaminated Land: Records of Notice.

[10] POEO Licence Data Source: Environment Protection Authority - Public register under the Protection of the Environment Operations Act 1997 (POEO Act).

[11] Reasonable effort has been made to ensure titling accuracy to the extent practicable of the landowner/ ID, approximate date of land transfer and previous land sizes and format. However, the sole purpose and intent of the searches is to establish either general or any specific activities on the subject Site which may have a reflection on the potential for contaminated land. Therefore, information herein should not be relied upon for titling or any other purposes whatsoever.

4.6 Aerial Photographs

SMEC undertook a search for historical aerial photographs for the Site. Canopy reviewed these and was in agreement with the searches undertaken by SMEC but also performed additional searches. Additional searches were sourced from Google Earth Pro, Six Maps, NSW Department of Land Property Information (LPI) and Nearmap. All historic photographs are shown in Appendix F, a summary of SMEC's findings and additional aerials added by Canopy are described in the table below.

Table 3: Summary of Historical Aerial Photograph Information

Year	Site Description and Surrounding Area
1947	The SMEC Report states: "*The site comprises cleared rural land that is covered in grasses with isolated trees. Further, furrow patterns on the land surface suggest that the orchards may have once occupied the site. The surrounding land is vacant and is being used for agricultural purposes, either grazing or orchard use. Appin Road is visible along the western boundary of the site.*"
1969	The furrow patterns are no longer apparent on the Site. A dam has been constructed to the east of the Site. There also appears to be some light development to the south of the Site.
1994	Vegetation growth has increased on-site. Residential development is evident to the west of the Site. A roundabout has been constructed directly north-west of the Site.
2005	The SMEC Report states: *"the grass cover is sparse in several areas of the site and exposed earth is visible.*" Residential development is evident to the east of the Site. Kellerman Drive has been constructed to the north of the Site. The aforementioned roundabout has been replaced by an intersection. A small dam has been constructed adjacent to the north-eastern corner of the Site.
2007	The northern portion of the Site appears to have been resurfaced. The dam appears to have been filled.
2014	Grass cover has been established over the majority of the Site. What appear to be vehicle tracks are prevalent on the Site. Residential development has continued to the east of the Site and power lines are now apparent neighbouring the Site to the west.
2016	The ground surface in the southern section of the Site appears bare, and several vehicles and small structures are present here. There appears to be stockpiles, potentially of soils, towards the Site's eastern boundary. A road has been constructed to the south of the Site and residential development has continued to the east of the Site.
2017	There are numerous stockpiles of soil throughout the Site, including one large stockpile of several different soils in the northern portion of the Site. Stockpiles of what appear to be building materials can be seen just within the Site's northern and western boundaries. Construction of the service station has begun on the Property, west of the Site. There appears to be a stockpile of soil on a property neighbouring the Site to the south-east.
2021	The Site contains a concreted access way from Kellerman Drive. The majority of the Site is vacant and grassed. A service station is apparent on the Property, west of the Site. Residential development has increased to the east and south of the Site.

Note: Additional aerials of the intervening years as reviewed by Canopy are available on request

4.7 Summary of Historical Research

The SMEC Report summarises the Historical Research for the Site as follows:

"Based on the historical information reviewed, the site has remained cleared rural land since at least 1947. However, there is evidence that orchards may have occupied the site during the 1940s and earlier."

Canopy's review of historical sources from 2014 (after the SMEC report) until the present indicated that there are no indications that the Site has been used for activities that would raise concern from a contamination point of view. The location of the Site directly down-gradient of an active service station poses a potential for on-site contamination that requires investigation.

5 Conceptual Site Model

A Conceptual Site Model (CSM) is a representation of site related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. Based on the information presented above, the following Conceptual Site Model is presented.

5.1 Potential Contamination Sources, Areas and Contaminants of Concern

Based on the Site history review and the observations made during the Site visits, potential Areas of Environmental Concern (AECs) associated with Contaminants of Potential Concern (CoPCs) that have been identified to potentially be present on-site are summarised in the below table:

Table 4: Summary of AEC

Potential AECs / Activity	Contaminants of Potential Concern
Possible fill layer present across the Site and/or underneath the building footprint	Polycyclic Aromatic Hydrocarbons (PAH), Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Asbestos, Organochlorine Pesticides (OC), Organophosphorus Pesticides (OP), heavy metals, and Polychlorinated BiPhenols (PCB), Asbestos
History of agricultural and market garden land use	Heavy metals, OC/OPs
Presence of a UST near the western boundary to centre of the Site.	BTEX, TRH, lead, PAH

5.2 Mechanism for Contamination, Affected Media, Receptors and Exposure Pathways

The following table summarises the mechanisms for contamination, affected media, receptors and exposure pathways relevant to the potential contamination sources/AEC as presented above.

Table 5: Conceptual Site Model Summary

Item	Description
Potential mechanism for contamination	Fill material – importation of impacted material, 'top-down' impacts (e.g. placement of fill, leaching from surficial material etc), or sub-surface release (e.g. impacts from buried material); Use of pesticides during use for agricultural purposes – 'top-down' and spills (e.g. during normal use, application and/or improper storage); Active service station next door to the Site. 'Bottom up' impacts from leaking tanks and underground pipes. Hydrocarbon impact may be present in the tank pits (most likely the base) and surrounding soils; contamination may be associated with the fill material surrounding the tank, the fill lines and soils bordering those areas.

Affected Media	Soil/soil vapour and groundwater have been identified as potentially affected media.
Receptor identification	Human receptors include site occupants/users (adults and children), construction workers and intrusive maintenance workers. Off-site human receptors include adjacent land users. Ecological receptors include terrestrial organisms and plants within unpaved areas (including the proposed landscaped areas).
Potential exposure pathways	Potential exposure pathways relevant to the human receptors include ingestion, dermal absorption and inhalation of dust (all contaminants) and vapours (volatile TRH, naphthalene, BTEX). The potential for exposure would typically be associated with the construction and excavation works, and future use of the Site. Potential exposure pathways for ecological receptors include primary contact and ingestion. Exposure during future site use could occur via direct contact with soil in unpaved areas such as gardens, or inhalation of vapours within enclosed spaces such as buildings.
Potential Exposure Mechanism	The following have been identified as potential exposure mechanisms for site contamination: Vapour intrusion into the existing and proposed buildings (either from soil contamination or volatilisation of contaminants from groundwater); Contact (dermal, ingestion or inhalation) with exposed soils in landscaped areas and/or unpaved areas; and Migration of groundwater onto the Site.
Presence of preferential pathways for contaminant movement	Sewers and other utility lines and the associated sewer trench/trench backfill is a potential preferential pathway for contaminant migrations. This could occur via groundwater/seepage if present, or via soil/vapour migration through the sewer and/or trench backfill.

6 Field Works and Supplementary Sampling Program

6.1 Site Inspection

A site inspection was undertaken by Dr Gunnar Haid, Canopy's Senior Environmental Engineer, on 9 March 2021. The Site is irregularly shaped and is void of any structures with the exception of a concrete covered access road to the neighbouring service station. See site photographs in Appendix B.

The concrete driveway was in reasonably good condition, the rest of the Site is covered with dirt which is grass covered along Appin Road and overgrown with weeds and poorly maintained grass in the remaining areas.

The property boundaries towards the west and north are unfenced and open. Both the eastern and southern boundaries are fenced off with colorbond fences.

The Site is approximately 5,440 m^2. The NSW EPA Sampling Design Guidelines (SDG) state a minimum of 15 borehole locations are required to be drilled (across the subject site) to satisfactorily characterise a site of that size. However, the SDG guidance is generally applicable in the event a Detailed Site Investigation (DSI) is required to be undertaken. Furthermore, the Site had been assessed previously (see Section 2.1). Provided the main goals of this investigation (as outlined in Section 2.3) and based on the results of the desktop research as described in the sections above, the sampling program designed and considered adequate by Canopy for this investigation consisted of nine soil boring locations (see Site Map in Appendix B).

6.2 Supplementary Sampling Program

The supplementary sampling program included the advancement of nine boreholes (B1-B9). Borehole locations were drilled as shown in the Site Map as contained within Appendix B.

The locations for drilling were cleared of underground utilities before carrying out the drilling activities. Boreholes were advanced using a truck mounted drill rig using solid flight augers (B1 to B3) and a hand auger tool for all other borings. Shallow soil samples were obtained directly from the auger. On all deeper samples a Sand and Sludge Sampling Probe was used by advancing the probe from the bottom of the borehole for another 150 mm into the undisturbed soil. The probe was retrieved, the stainless steel sample part of the probe opened, and the sample retrieved.

All sampling was carried out using fresh disposable gloves at each sampling event and to the extent possible making sure that cross contamination between layers and boreholes was avoided. Augers and the sampling tool were brushed and if necessary, rinsed off between boreholes and samples.

Samples were placed into laboratory supplied sample jars with Teflon-lined lids. Soil sample jars were fully filled in an attempt to minimise head space, labelled and immediately placed in an electrically (battery and/or mains) powered portable refrigeration unit for storage during field work and for transport to the laboratory. A chain of custody (CoC) form was filled in with the sample names, project ID, sampling date and required analyses. This documentation and the samples were then delivered to the laboratory on the day after sampling by the Canopy representative without the use of couriers or third parties. CoC documentation is presented in Appendix G.

The subsurface of the Site consisted broadly speaking of a layer of fill material (dark brown to light brown gravelly silty clay and silty clay of low plasticity). This layer was between 3 m (Boring B3) and 4.25 m (B2) thick. This fill layer was followed by natural and what appeared undisturbed orange-brown to grey silty clay which was followed by dark grey shale. The maximum depth reached was 9.0 mbgl. Bore logs providing more information about the subsurface geology are provided in Appendix H.

No staining or other abnormal soil discolouring was encountered in any of the bore holes. There were no signs of underground storage tanks present at the Site (notwithstanding the presence of USTs on the neighbouring service station). Groundwater in form of a distinct wet layer was only encountered in Boring B3 at a depth of approximately 8.5 mbgl. All borings were left open for a minimum of 2 hrs before being backfilled. No water accumulated in Borings B1 and B2. Water accumulating in Boring B3 was sampled.

A total of 13 primary soil samples was collected from the borings at various depths and submitted to the laboratory for analysis. Samples were submitted to NATA accredited laboratory Envirolab Services in Chatswood, NSW. Analytical methods complied with NEPM and NSW EPA requirements, with Practical Quantitation Limits (PQLs) used in the laboratory tests less than the adopted site investigation criteria.

The surface of the Site and all soil from the boreholes were inspected for the presence of ACM. No signs of ACM sheets or fragments thereof were noticed on the surface or in any of the soil samples. Samples were analysed for as per the analytical schedule summarised in the below table.

Table 6: Analytical Schedule

Matrix type	Sample ID	TRH/ BTEX	PAH	Metals (8)	PCB	OC/OP	Asbestos
Soil	B1 0.15m	X	X	X	X	X	X
Soil	B1 7.3m	X	-	-	-	-	-
Soil	B2 0.15m	X	X	X	X	X	X
Soil	B2 2.1m	X	-	-	-	-	-
Soil	B2 8.2m	X	-	-	-	-	-
Soil	B3 0.15m	X	X	X	X	X	X
Soil	B3 8.7m	X	-	-	-	-	-
Soil	B4 0.2m	X	X	X	X	X	X
Soil	B5 0.2m	-	-	X	-	X	-
Soil	B6 0.2m	-	-	X	-	X	-
Soil	B7 0.2m	-	-	X	-	X	-
Soil	B8 0.2m	-	-	X	-	X	-
Soil	B9 0.2m	-	-	X	-	X	-
Soil	D1	-	-	X	-	-	-
Water	B3W	X	-	-	-	-	-
Water (off-site)	MW1	X	-	-	-	-	-
Water (off-site)	MW2	X	-	-	-	-	-
- = Sample not analysed X = Sample analysed							

6.3 Water Sampling

Prior to sampling, the depth to the standing water level was measured. Following this, MW1 and MW2 were sampled by lowering a hyrdasleeve sampler into the well to a depth of at least 2 m below the water table. The hyrdasleeve sampler was retrieved in one motion and the contents emptied into the prepared sample containers.

A small amount of groundwater accumulated in Boring B3 and Water from Boring B3 (Sample B3W) was obtained without the installation of a monitor well. A BTEX vial was lowered into the well in a string a number of times and used to retrieve enough water to fill a second BTEX vial which was submitted for analysis.

6.4 Assessment Criteria

Assessment criteria relevant to residential (with minimal opportunities for soil access) land use were selected from Schedule B 1 Guidelines on Investigation Levels for Soil and Groundwater (National Environment Protection (Assessment of Site Contamination) Measure 1999, amended 2013).

Additional screening criteria were adopted from the Cooperative Research Centre for Contaminant Assessment and Remediation of the Environment (CRC CARE) Health Screening Levels (HSLs) for Petroleum Hydrocarbons in Soil and Groundwater (Friebel & Nadebaum, 2011).

The CRC CARE guidance provides the latest approach for assessing the risks of petroleum mixtures for a variety of land use scenarios, and in particular the evaluation of the direct contact and vapour migration intrusion pathways. Consistent with CRC CARE (2013) Petroleum Vapour Intrusion guidance, soil HSLs were applied to the Site, as detailed below.

The guidelines selected as relevant screening criteria for soil include those designed for the inhalation of vapour and for direct contact, considering:

- Health Investigation levels (HILs) for soil contaminants - Residential B (HIL-B);
- Soil HSL B for Vapour Intrusion for soil specific to the Site (clay <1 m);
- Soil Health Screening Levels for Direct Contact (CRC Care 2011); and

Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) were used for an 'minimal opportunities for soil access' exposure scenario as outlined in NEPM (2013) and adjusted for the soil type.

EILs for selected metals were calculated based on the conservative added contaminant limit (ACL) values for soils with a pH of 5.5 or more (neutral to slightly acidic soils) presented in Schedule B(1) of NEPM (2013) and published ambient background concentration (ABC) values[12] (50th percentile for background levels in old suburbs with high traffic).

[12] Olszowy, H, Torr, P, Imray, P 1995, Trace element concentrations in soils from rural and urban areas of Australia, Contaminated sites monograph no. 4, South Australian Health Commission.

Guidelines for the classification of waste were used using the 2014 NSW EPA Waste Classification Guidelines Part 1: Classifying Waste.

Water

Groundwater analytical data for this assessment has been compared against the following groundwater criteria:

The NEPM (2013) Groundwater Investigation Levels (GILs) for freshwater and marine aquatic ecosystems were adopted as one component of the groundwater investigation criteria. It is noted that the NEPM (2013) GILs apply to typical slightly to moderately disturbed ecosystems and have been adopted from the Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000), National Water Quality Management Strategy, Australian Water Quality Guidelines for the Protection of Aquatic Ecosystems (ANZECC/ARMCANZ, 2000). ANZECC/ARMCANZ (2000) has been superseded by ANZG (2018).

Given the urban nature of the area where the Site is located, the presence of a reticulated water supply, and absence of water bodies within 250m of the Site with the potential to support recreation, it is unlikely that groundwater in the area would be extracted for drinking water, stock, recreation and irrigation purposes. In addition, no domestic, stock, irrigation or recreation bores have been identified within 500 m of the Site (refer to 3.4). However, the NSW EPA (2015) Duty to Report Guidelines reference NEPM (2013) criteria, including the NEPM (2013) Drinking Water criteria. Therefore, the results will also be compared to the NEPM (2013) Drinking Water criteria.

To evaluate the potential risk posed from vapour intrusion (VI) from groundwater, analytical results have been compared to the NEPM (2013) Health Screening Levels (HSLs) for VI from groundwater. The NEPM (2013) HSLs have generally adopted the CRC CARE (2011) HSLs for evaluation of VI risk posed from groundwater with some minor deviations. Based on the intended land use of the Site, the analytical results will be compared to the HSL B criteria for VI which will be selected for the appropriate soil type encountered in the subsurface.

The HSLs do not also directly apply to water levels shallower than 2 m, but as an initial screening measure, the results will be compared to the sand HSLs for depth range 2 to 4 m. The NEPM (2013) groundwater HSLs have been drafted as a screening tool to determine whether further investigation is necessary. This means that should the identified concentrations be below the adopted HSLs then no further investigation is required. However, should the identified concentrations be above the HSLs it is noted that this is a trigger value requiring further detailed assessment.

7 Quality Control and Quality Assurance

7.1 Field QC Samples

Intra-laboratory field duplicate (blind or field duplicates) samples are used to determine the precision associated with all or part of the sample collection and measurement process. They also provide an indication heterogeneity of the sample matrix. They are two independent samples collected as nearly as possible, from the same point in space and time. The two samples are collected from the same source using the same type of sampling equipment. Each field duplicate is collected and stored in separate sample containers and transported in the same shipping container[13].

The results of the analyses on blind duplicate sample pairs are assessed by calculating the Relative Percent Differences (RPDs) between the results. The RPD is calculated as the difference between the results divided by their mean value and expressed as a percentage. If the RPD exceeds the value adopted for any analytes, additional investigation will be required, or justification provided for not conducting additional investigation.

RPD values are considered acceptable if they are less than:

- 30% for inorganics and 50% for organics for results greater than ten times the laboratory's practical quantitation limit (PQL);
- 50% for inorganics and 70% for organics for results between five and ten times the PQL; and
- 100% for results less than five times the PQL.

The RPDs obtained as a result of this investigation are summarised as follows:

Table 7: Calculated RPDs for Intra Laboratory Blind Duplicates

Analyte	Parent	Dupli-cate	PQL [mg/kg]	Parent [mg/kg]	Duplicate [mg/kg]	Accepted RPD %	RPD % [rounded]
Arsenic	B9, 0.2 m	D1	4	4	<4	NA	NA
Cadmium	B9, 0.2 m	D1	0.4	0.5	<0.4	NA	NA
Chromium	B9, 0.2 m	D1	1	8	8	50	0
Copper	B9, 0.2 m	D1	1	22	21	30	5
Lead	B9, 0.2 m	D1	1	29	35	30	19
Mercury	B9, 0.2 m	D1	0.1	<0.1	<0.1	NA	NA
Nickel	B9, 0.2 m	D1	1	7	5	50	33
Zinc	B9, 0.2 m	D1	1	74	87	30	16
* RPD values are only calculates where both results are above the laboratory Practical Quantitation Limit (PQL)							

The above RPDs all fall within the acceptable levels and results are hence considered acceptable for the purpose of this investigation.

[13] Lee, C C. Environmental Engineering Dictionary. 4th ed., Government Institutes, 2005.

Inter-laboratory duplicate samples are field duplicate samples submitted to two different laboratories to provide a check of the analytical performance of the primary laboratory and specifically, the reproducibility of primary laboratory data.

The laboratory chosen for the analysis of all samples is NATA registered and has a rigorous quality program in place (See laboratory reports in Appendix G). It is regularly audited as part of the NATA registration. Considering the nature of this investigation, it is Canopy's opinion that the quality control implemented by the laboratory is sufficiently rigorous for this type of investigation, hence inter-laboratory duplicate samples, trip blanks and trip spikes (mainly used when volatile substances are of primary concern) were not submitted as part of this investigation.

Potential cross contamination between sampling locations can be an issue at contamination assessments. Rinsate samples are used to assess the effectiveness of decontamination procedures. Levels of contaminants resulting from cross contamination between sample locations would in all likelihood over-estimate site impact rather than mask the presence of contaminants. No rinsate samples were submitted as part of this investigation which was for the reasons given above considered acceptable for this investigation.

7.2 Laboratory Quality Program

Laboratory QA/QC is provided in the laboratory reports in Appendix G. Laboratory QC analytical results are summarised below:

- Laboratory analysis of soil samples was undertaken by a NATA accredited environmental testing laboratory.
- All soil samples were extracted and analysed within holding times.
- No target analytes were detected in any of the method blanks.
- RPDs for the laboratory duplicate soil samples were within the acceptable range for all samples.
- Percentage recovery results for laboratory control samples were within the acceptable range for all samples.
- Percentage recovery results for surrogate samples were within the acceptable range for all samples.
- Percentage recovery results for matrix spikes were within the acceptable range for all samples.

8 Analytical Results

A summary of laboratory results from the investigation is provided below (the laboratory reports are included in Appendix G).

8.1 Human Health Criteria Assessment

A brief summary of the analysis result when compared to the Site Criteria for human health (see Section 6.4) is provided below.

- **BTEX / TRH:**

  All samples reported concentrations below the adopted Site Criteria.

- **Eight Priority Heavy Metals:**

  All samples reported concentrations below the adopted Site Criteria.

- **PAHs:**

  Total PAHs concentrations in all samples were below the adopted Site Criteria.

- **Benzo(a)pyrene as TEQ** (a calculation that combines weighted concentrations of a number of select PAHs):

  All samples reported concentrations below the adopted Site Criterion.

- **OCP, OPP & PCBs:**

  All samples reported concentrations below the adopted Site Criteria.

- **Asbestos**:

  All samples reported no asbestos fibres detected

A summary of the results and investigation criteria applied to this investigation is provided below. A table summarising all analysis results is presented in Appendix G.

Table 8 Assessment Criteria and Results Summary

Analyte	Criteria	Maximum Concentration [mg/kg]	Exceedance	Samples exceeding criteria
Arsenic	500[1]	7	No	NA
Cadmium	150[1]	0.5	No	NA
Chromium	500[1]	15	No	NA
Copper	30,000[1]	39	No	NA
Lead	1,200[1]	35	No	NA
Mercury	120[1]	<0.1	No	NA
Nickel	1,200[1]	15	No	NA
Zinc	60,000[1]	87	No	NA
F1 (TRH C6-C10 less BTEX)	45[2]	<25	No	<100
F2 (TRH C10-C16 less Naphthalene)	110[2]	<50	No	<100
C16 – C34	5,800[3]	<100	No	<100
C34 – C40	8,100[3]	<100	No	NA
Benzene	0.5[2]	<0.2	No	NA
Ethyl benzene	55[2]	<1	No	NA
Toluene	160[2]	<0.5	No	NA
Xylene	40[2]	<1	No	NA
Naphthalene	3[2]	<1	No	NA
Total PAH	400[1]	<0.05	No	NA
PAHs (as BaP TEQ)	4[1]	<0.5	No	NA
PCBs	1[1]	<0.1	No	NA
OCP	Various (see results tables)	BDL	No	NA
OPP	Various (see results tables)	BDL	No	NA
Asbestos in soils	-	None detected		

1 Health Investigation Levels (HILS) for soil contaminants – Residential B (HIL-B)

2 Health Screening Levels (HSL) for soil contaminants in sand and at a depth of 0m < 1m (NEPM 2013)

3 Soil Health Screening Levels for Direct Contact HSL-B (CRC Care 2011)

4 No limit provided
5 BDL = Below Detection Limit

8.2 Environmental and Ecological Assessment

A brief summary of the analysis result when compared to the Ecological and Environmental Site Criteria (see Section 6.4) is provided below.

- **BTEX / TRH:**

All samples reported BTEX and TRH concentrations below the adopted site criteria.

- **Eight Priority Heavy Metals:**

All samples reported heavy metals concentrations below the adopted site criteria.

- **PAHs:**

All samples reported PAH concentrations below the adopted site criteria.

- **OCP:**

All analysed samples reported concentrations of DDT below the adopted site criterion.

A table summarising all analysis results is presented in Appendix G.

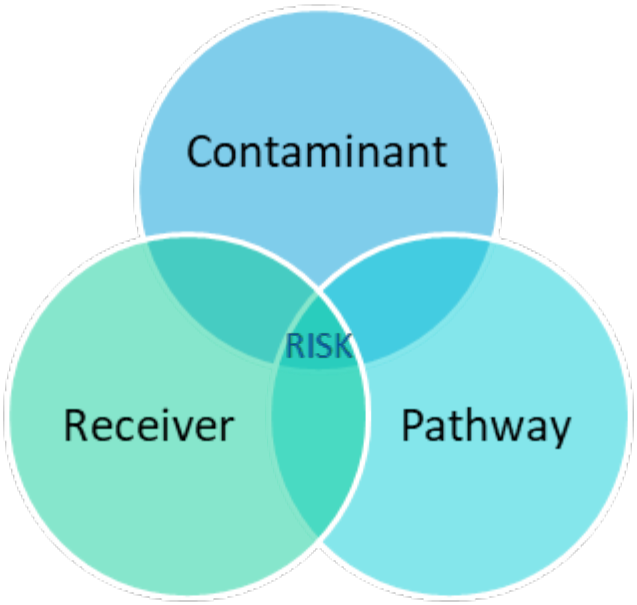
8.3 Groundwater Results

All analysed groundwater samples reported concentrations below the adopted site criteria. A table summarising all analysis results is presented in Appendix G.

9 Tier 1 Risk Assessment

The below diagram shows the three key conditions that need to be met for a contamination risk to exist. There needs to be a contaminant present, a receiver (i.e. human, animal, plant) who can reasonably be impacted by that contaminant and a pathway between the two. If one of the components if missing, the potential for adverse risk is low.

Risk may vary over time, as the contributing conditions change. Understanding this model is central to the development of the CSM, the assessment of results and formation of conclusions in this report.



9.1 Contaminants of Potential Concern

All analytes were found to be below the adopted Site Criteria (provided in Section 6.4). The Site is hence considered to pose a low risk to receptors.

10 Summary of Findings

Based on the results of the investigation and subject to the limitations in Section 13 (noting the investigation is concerned with soils only) the following conclusions are made:

1. The Site is located in a predominantly residential area with the exception of the service station neighbouring the Site to the west. The Site has a size of approximately 5,440 m^2.
2. The Site's history can reasonably be summarised as a block of land that was possibly used for agricultural purposes, which may have included orchard farming. In circa 2017, a service station was constructed on the Property. The Site itself has remained vacant until the present day.
3. No stress was observed in the vegetation and no surface staining or olfactory evidence of contamination were encountered.
4. The Site is not located in an Acid Sulfate prone area and no further investigation into potential ASS is considered necessary.
5. A total of nine boreholes were drilled across the Site as part of the investigation's sampling program, with a total of 13 primary soil samples and three water samples submitted to the laboratory and analysed for a broad range of contaminants.
6. The subsurface of the Site was found to consist of a layer of fill material ranging in thickness from 3.0 m and 4.25 m and was followed by natural silty clay of colours varying between orange-brown to grey. This was followed by dark grey shale.
7. Groundwater in form of a distinct wet layer was only encountered in Boring B3 at a depth of approximately 8.5 mbgl. No water accumulated in Borings B1 and B2. Water accumulating in Boring B3 was sampled.
8. Groundwater flow direction is inferred to be in a north to north-eastern direction;
9. The sampling program conducted as part of this investigation targeted a wide range of target contaminants in shallow fill materials found across the Site.
10. Results of the laboratory analysis undertaken showed concentrations of all analytes to be below the adopted site criteria.

11 Conclusions

Based on the results of the investigation the following conclusions are provided:

1. Canopy considers that the subject Site is similar in nature to the greater Property, as described in the SMEC Report prior to development of the now adjoining service station. The SMEC Report therefore is considered relevant to the investigation herein given the site-specific circumstances. Canopy's findings, recommendations and conclusions are generally commensurate with those in the SMEC Report, noting in particular the key conclusion of the SMEC Report which stated as follows:

   'Based on the results of this DSI, the site is considered to be suitable for a commercial/industrial land use, including the service station development which is proposed. However, the operator of the service station should be requested to provide confirmation that an appropriate environmental performance monitoring program will be implemented as a condition of their lease agreement. As a minimum, this should include a leak detection system for underground petroleum storage systems (UPSSs) in accordance with EPA's Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (UPSS Regulations), a key component of which is the installation of, and regular sampling from, groundwater monitoring wells. The performance monitoring program should be documented in an Environment Protection Plan (EPP), prepared in accordance with the UPSS Regulations'

2. Based on the above Canopy considers the Site suitable for the proposed land use without further environmental assessment.

3. As a matter of prudence, the following key requirements are noted:

   - The Construction Environmental Management Plan (CEMP) (or equivalent document) should include an 'unexpected finds' protocol.
   - Should any evidence become apparent during site/earth works that asbestos or asbestos fragments (or other contaminants including hydrocarbon odours) are present in soils then appropriate actions should be undertaken in accordance with relevant guidelines and regulations.
   - All soils to be taken offsite must be classified in accordance with the EPA Waste Guidelines Part 1: Classifying Waste (2014) prior to being disposed of at a landfill facility authorised to receive the material.

As a general note, the fact that the Site is located immediately down-gradient of an operating service station, should be taken into consideration as part of any site assessment and future development. Service stations and associated underground tanks/pipework are one of the most common reasons for significant site contamination and form the majority of sites that are on the list of contaminated sites notified to the NSW EPA.

The Client may consider the installation of a number of vapour monitor wells along the boundary with the service station (near Borings B1-B3) and to also request from the service station operator that the results of the mandatory six-monthly UPSS monitoring be made available to the Site owner.

Regular monitoring of the vapour wells together with a review of the UPSS monitoring would be a relatively inexpensive, yet highly effective way to become aware of subsurface impact migrating onto the Site due to a spill or leak at the service station. Such a program can be implemented without incurring significant costs while the results would ensure that the Site owner does not have to rely on the (typically) delayed response and notification procedures deployed by some fuel distribution companies.

Becoming aware early in the process of a contamination incident arising from off-site will significantly lessen the impact such an incident can have on the operations conducted at the Site which can be instrumental in remedial actions. The consideration of this advice or guidance is particularly pertinent given what Canopy understands there to be a relatively complex ownership and stakeholder profile across the whole property including the Service Station.

The conclusions and recommendations should be read together in conjunction with the full report and the Limitations.

12 List of Key Guidelines and Regulations

- National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended 2013 referred to as NEPM (2013);
- NSW EPA Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (April 2020);
- Contaminated Sites: Sampling Design Guidelines, NSW EPA, 1995 (EPA 1995);
- State Environmental Planning Policy No. 55;
- EPA Waste Guidelines Part 1: Classifying Waste (2014);
- PFAS National Environmental Management Plan Version 2.0', Heads of EPA Australia and New Zealand 2020
- Ahern C R, Stone, Y, and Blunden B (1998). Acid Sulfate Soils Assessment Guidelines Published by the Acid Sulfate Soil Management Advisory Committee, Wollongbar, NSW, Australia (Acid Sulfate Soils Guidelines);
- CRC CARE 2017, Risk-based management and remediation guidance for benzo(a)pyrene, CRC CARE Technical Report no. 39, CRC for Contamination Assessment and Remediation of the Environment, Newcastle, Australia;
- Olszowy, H, Torr, P, Imray, P 1995, Trace element concentrations in soils from rural and urban areas of Australia, Contaminated sites monograph no. 4, South Australian Health Commission.

13 List of Abbreviations

A list of the common abbreviations that may be used throughout this report is provided below.

ACM	Asbestos Containing Material
AEC	Area of Environmental Concern
AHD	Australian Height Datum
B(a)P	Benzo(a)pyrene
bgl	Below Ground Level
BTEX	Benzene, toluene, ethylbenzene and xylenes
CEMP	Construction Environmental Management Plan
CoPCs	Contaminants of Potential Concern
CoC	Chain of Custody
CRC CARE	Cooperative Research Centre for Contaminant Assessment and Remediation of the Environment
CSM	Conceptual Site Model
DA	Development Application
DP	Deposited Plan
DQOs	Data Quality Objectives
DSI	Detailed Site Investigation
EMP	Environmental Management Plan
EPA	NSW Environment Protection Authority
ha	Hectare
HIL	Health based investigation level
HSL	Health screening levels
LOR	Limit of Reporting
NEPM	National Environment Protection Measures
NHMRC	National Health and Medical Research Council
OC	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PFAS	Per- and Poly-Fluoroalkyl Substances
PCB	Polychlorinated Biphenyl
PQL	Practical Quantification Limit
RAP	Remedial Action Plan
RPD	Relative Percentage Difference
PSI	Preliminary Site Investigation
SAP	Sampling Analysis Plan
TCLP	Toxic Characteristic Leaching Potential
VOC	Volatile Organic Compounds
TRH	Total Recoverable Hydrocarbons

14 Limitations

The findings of this Report are based on the Scope of Work as defined herein, noting the investigation is concerned with the surface and sub-surface conditions (notwithstanding limited observations of structures if relevant due to the potential for the presence of ACMs). Canopy Enterprises Pty Ltd (Canopy) performed services in a manner consistent with industry standards and general expectations for the undertaking of similar works. The assessment was undertaken with regard to the proposed development and land use.

No sampling or analysis was undertaken as part of the Scope of Works. Even in the cases were sampling and analysis is undertaken it is not possible to identify all hazardous or toxic materials which may be present on the Site and this assessment should not be interpreted as a guarantee that hazardous or toxic materials (including any hazardous or toxic materials not referred to) or other Areas of Environmental Concern (AEC) exist across the Site.

Canopy accepts no liability for use or interpretation by any person or entity other than reasonable use and interpretation by the Client or their representative who engaged the works or relevant third parties and which relates directly to the intended purposes of the investigation.

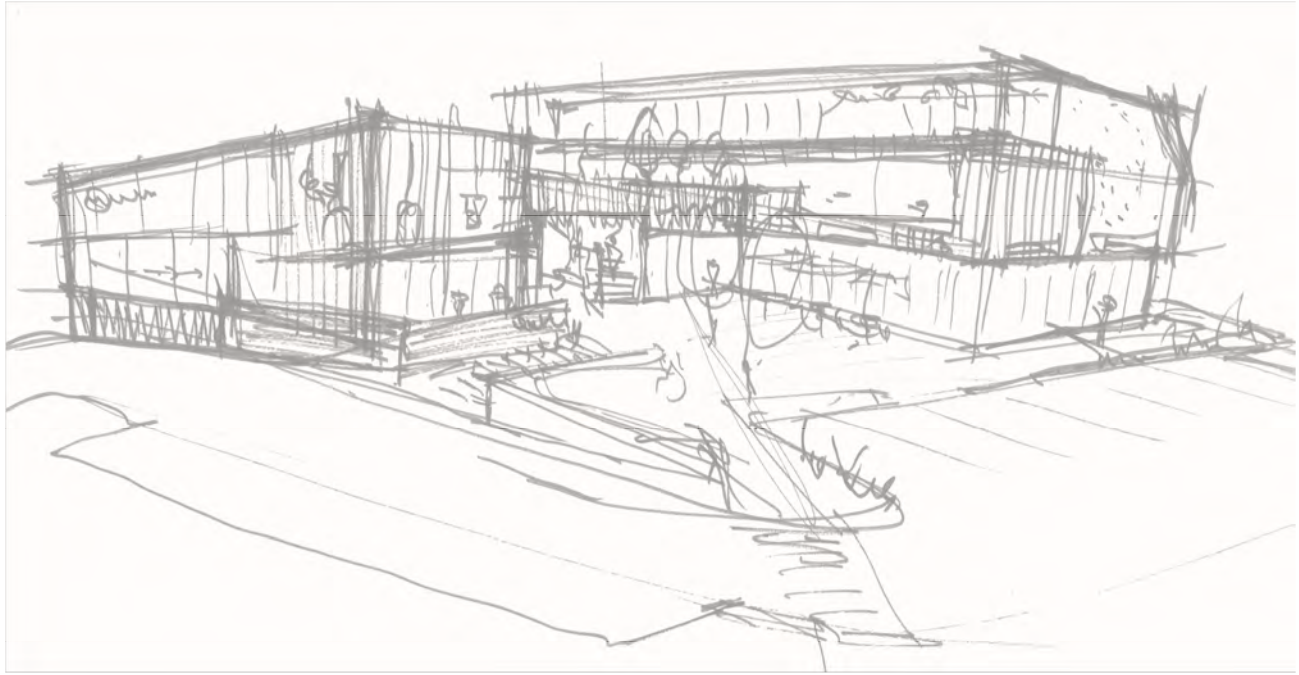
All conclusions and considerations regarding this property represent the professional opinions of Canopy's personnel involved with the project and should not be considered a strictly legal interpretation of existing environmental guidelines or regulations.

Canopy assumes no responsibility or liability for errors in the public data utilised, statements from sources outside of Canopy or any consequential developments arising outside of the scope of this project. In the unlikely event however that Canopy was proven to be in error, given the nature, scale and cost of the assessment in comparison to the costs of the underlying works Canopy's liability for consequential damage is limited to the value of Canopy's engagement to the extent the law permits.

This Report may only be used for the specific purposes for which it was commissioned and in accordance with the terms of engagement. Canopy retains unfettered ownership of the Report, and its contents, to the extent the law permits, until all payment obligations have been fulfilled. In the unlikely event that any outstanding debts are referred to a third- party debt collector all additional costs associated with the collection of the debt will be borne by the Client, including any commission payable by Canopy or any unawarded legal expenses.

The Report should not be reproduced in part or full without joint authorisation from the Client and Canopy unless related to its intended purposes, in which case all relevant acknowledgements should be included.

Appendix A
Architecturals

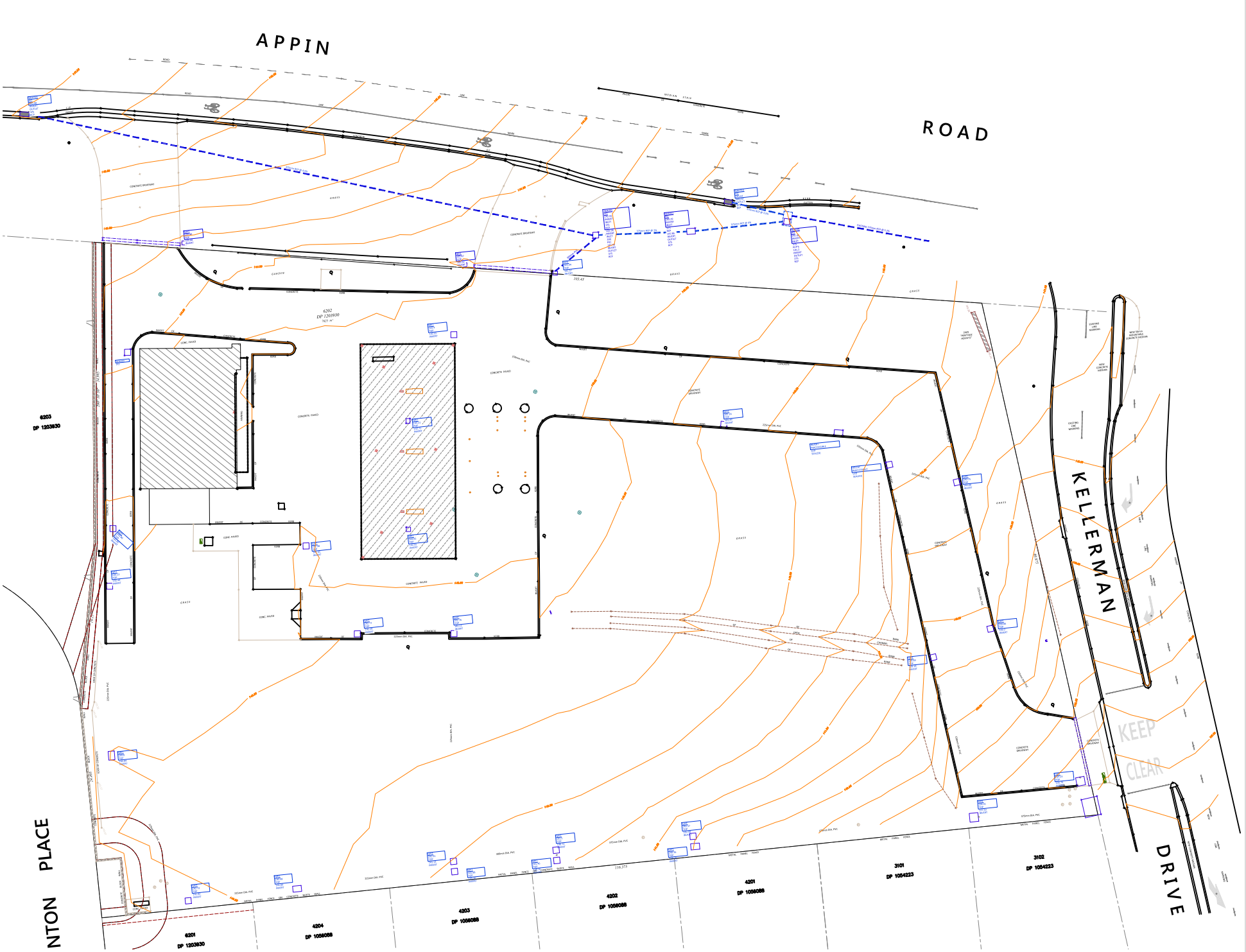


Concept Package

January 2019

MIR GROUP

Cnr Appin Rd & Kellerman Dr,
Campbelltown NSW 2560



ClarkeHopkinsClarke
115 Sackville Street
Collingwood VIC Australia 3066
Telephone (03) 9419 4340
Facsimile (03) 9419 4345
Email studio@chc.com.au
www.chc.com.au

EXISTING CONDITIONS

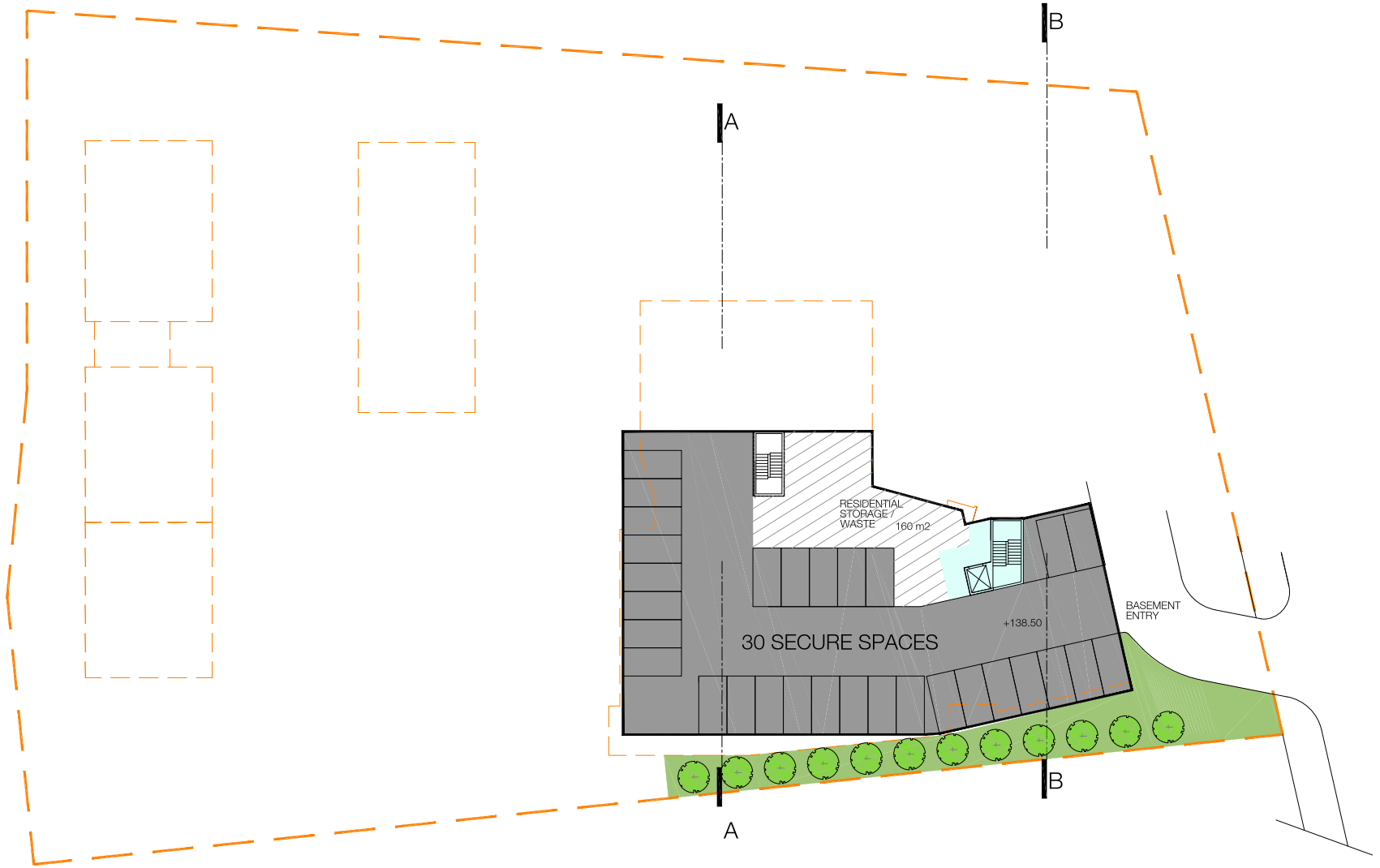
St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1
0 10 20

5 October 2018

170164/SK01

A1



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LOWER GROUND

St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1
0 10 20

January 2019

170164/SK02

A1

GROUND FLOOR SCHEDULE

FUEL (EXISTING)	200m2
NEIGHBOURHOOD SUPERMARKET	660m2
TAKE AWAY (x2)	320m2
NEIGHBOURHOOD SHOPS (x4)	270m2
RESTAURANT	210m2
ON-GRADE PARKING	91 SPACES

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CONCEPT DESIGN_Ground Floor

St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1
0 10 20

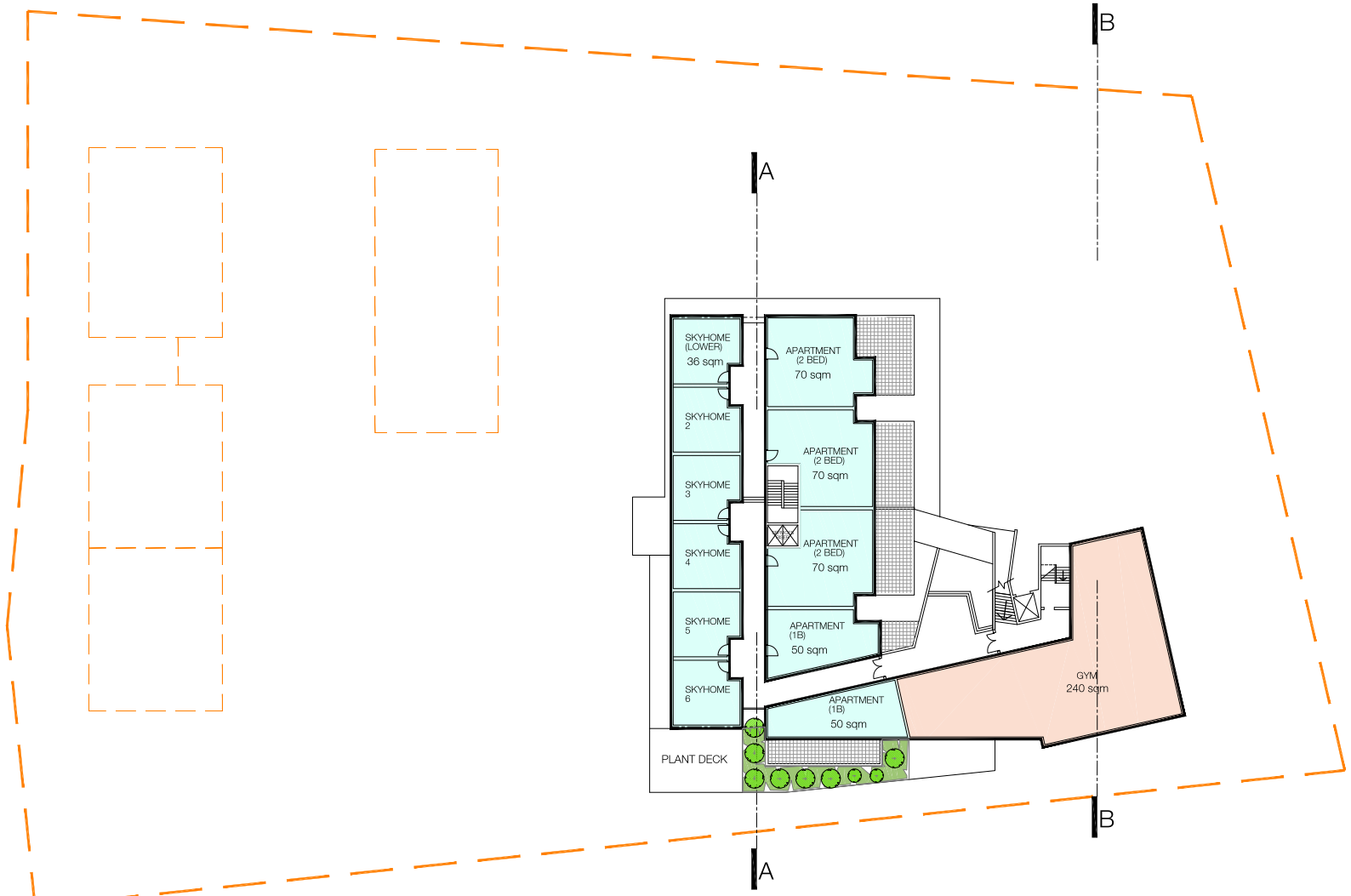
January2019

170164/SK03

A1

FIRST FLOOR SCHEDULE

6 NO. SKYHOMES (LOWER LEVEL)	36m2 EA
3 NO. 2 BED APARTMENTS	70m2 EA
2 NO. 1 BED APARTMENTS	50m2 EA
GYM	240m2



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CONCEPT DESIGN_First Floor

St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1

0 10 20

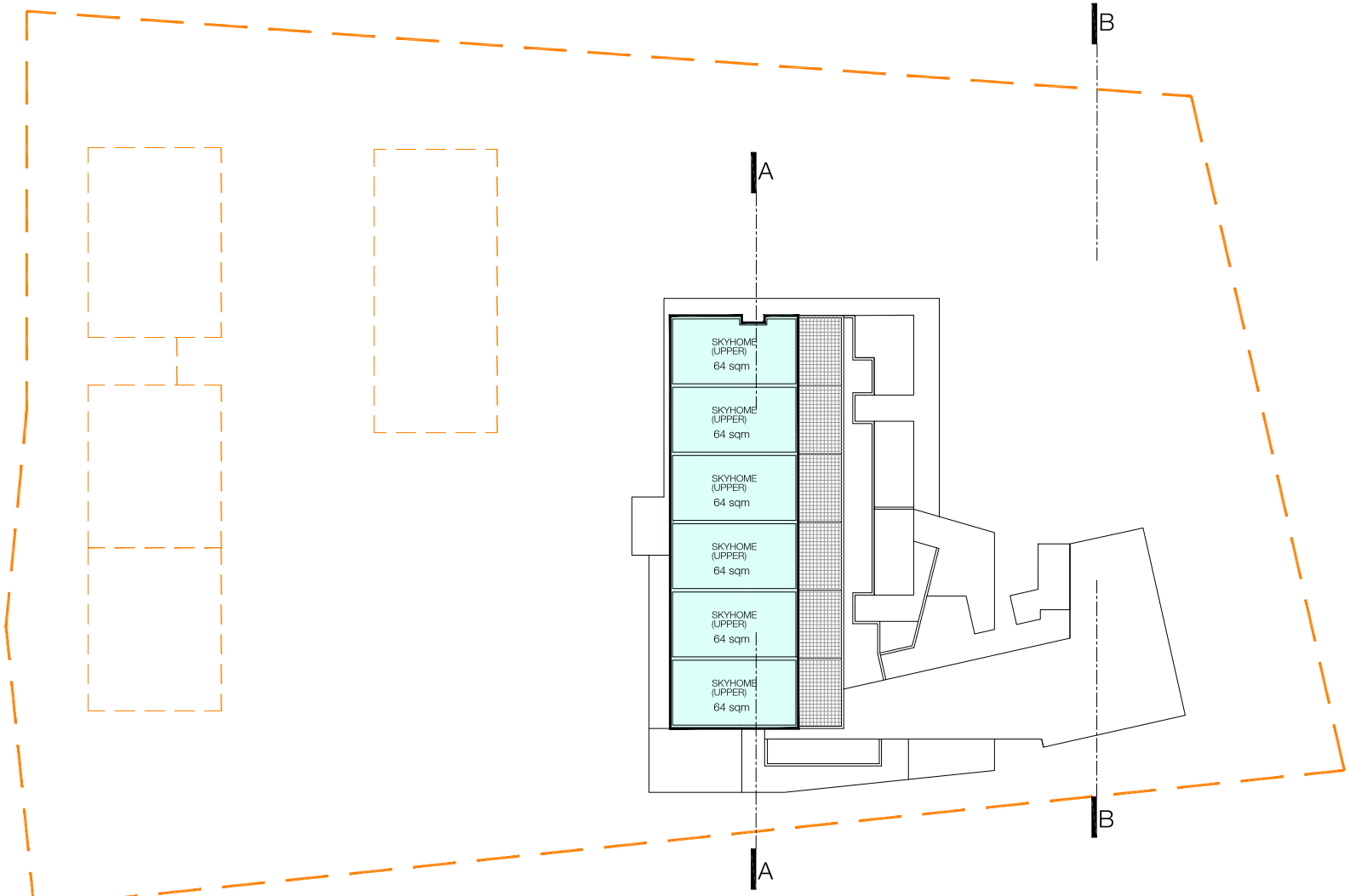
January 2019

170164/SK04

A1

SECOND FLOOR SCHEDULE

6 NO. SKYHOMES (UPPER LEVEL) 64m2 EA



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CONCEPT DESIGN_Second Floor

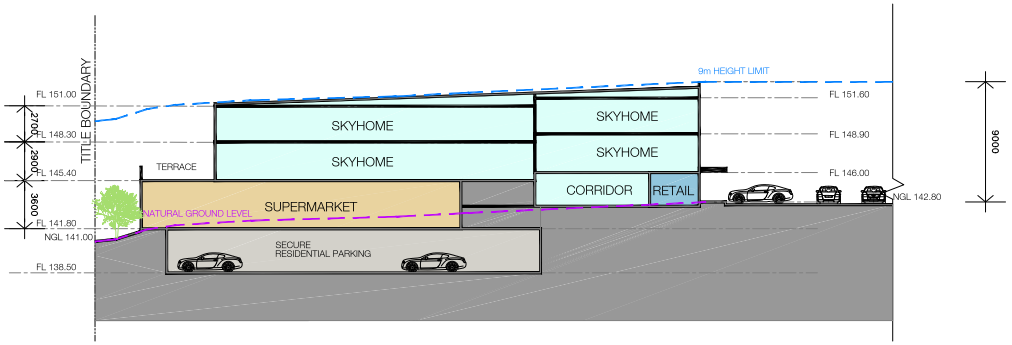
St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1
0 10 20

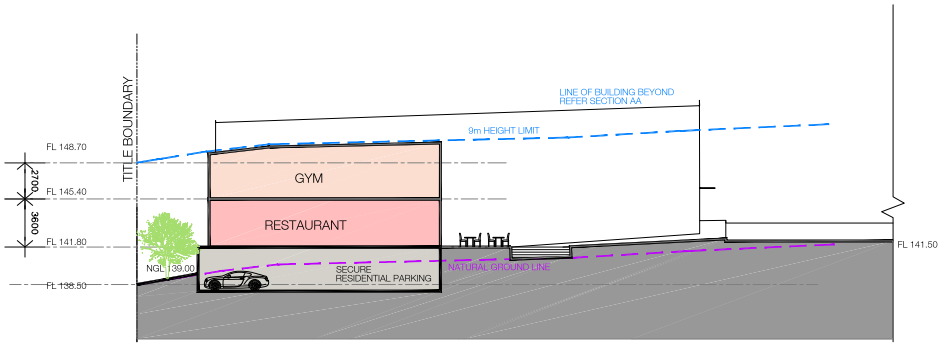
January 2019

170164/SK05

A1



SECTION AA



SECTION BB

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CONCEPT DESIGN_SECTIONS

St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1
0 10 20

January 2019

170164/SK06

A1

Development Schedule

MIXED USE

		CAR PARKING			
	m^2	COMPLIANT WITH CAMBELLTOWN DCP 2105		DESIGNED	ENGINEERED
SITE AREA (approximate)	7560				
	m^2	RATE	REQ'D		
SERVICE STATION (existing)	200	1/25	8	8	-
NEIGHBOURHOOD SUPERMARKET	660	1/25	27	20	-
TAKE AWAY (160 x 2)	320	1.5/20	24	20	-
NEIGHBOURHOOD SHOPS	270	1/25	11	8	-
RESTAURANT	210	1.5/10	32	28	-
GYM	240	1/25	10	7	-
TOTAL AREA	1,900	-	-		
TOTAL SPACES REQUIRED			**112**	**91**	-

Development Schedule

RESIDENTIAL

		CAR PARKING			
	m^2	COMPLIANT		DESIGNED	ENGINEERED
SITE AREA (approximate)	7560				
RESIDENTIAL					
6# 2-BED SKYHOMES	100	1EA	6	12	-
3# 2-BED APARTMENTS	70	1EA	3	6	-
2# 1-BED APARTMENTS	50	1EA	2	2	-
TOTAL SPACES REQUIRED			**11**	**20**	-

Development Schedule

CAR PARKING

BASEMENT		30	-
GROUND		91	-
TOTAL SPACES REQUIRED		121	-

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DEVELOPMENT SCHEDULE

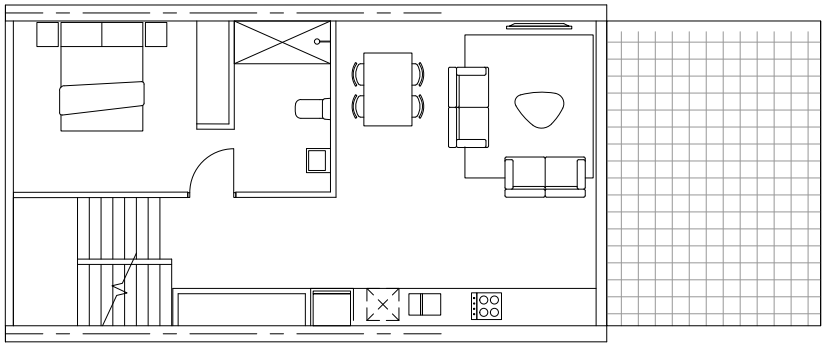
St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:200 @ A1
0 10 20

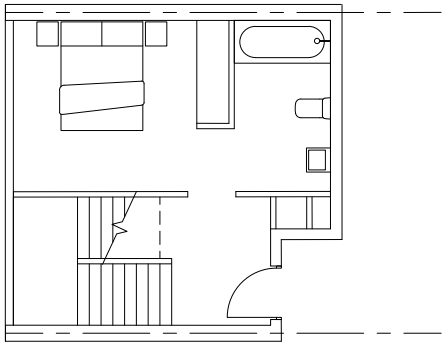
January 2019

170164/SK07

A1

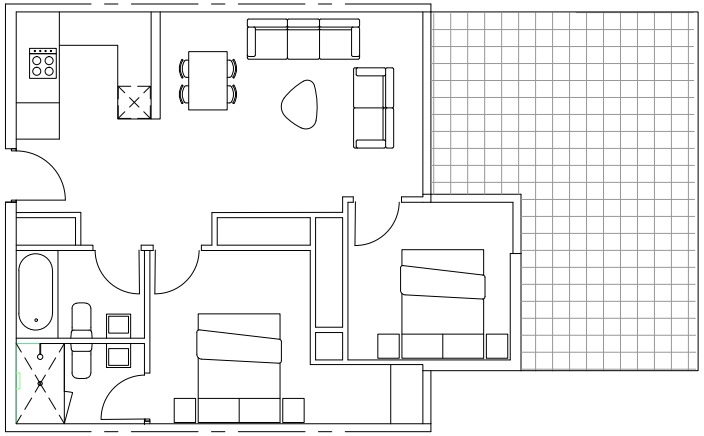


UPPER LEVEL



LOWER LEVEL

TYPICAL SKYHOME LAYOUT



LOWER LEVEL

TYPICAL 2 BED LAYOUT

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TYPICAL APARTMENT LAYOUTS

St. Helens Park Expansion (cnr Appin Road & Kellerman Drive)

Scale 1:50 @ A1
0 10 20

January 2019

170164/SK08

A1

Appendix B
Site Map, Sampling Locations, Site Photographs

Site Map

Note: Red line is the approximate boundary of Site, red dots show approximate sampling locations

Source: Nearmap

Photo 1:

View of the service station from the south-western corner. Appin Road is on the left hand side of the frame

Photo 2

The Site as seen from the north-western corner with Appin Road on the right.

Photo 3

Looking south with Kellerman Drive in the back of the frame

Appendix C
Heritage Register Search Results

Search the State Heritage Inventory

Search for NSW heritage

Return to search page where you can refine/broaden your search.

Statutory listed items

Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by Heritage NSW.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the Heritage Act. This information is provided by Heritage NSW.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search did not return any matching results.

Section 2. Items listed under the Heritage Act.

Your search did not return any matching results.

Section 3. Items listed by Local Government and State Agencies.

Your search returned 4 records.

Item name ▲	Address	Suburb	LGA	Information source
Denfield Homestead	Appin Road	St Helens Park	Campbelltown	LGOV
St Helens Park Dam	Ironside Avenue	St Helens Park	Campbelltown	LGOV
St Helens Park House	66 St Helens Park Drive	St Helens Park	Campbelltown	LGOV
St Helens Park House and Dam	St Helens Park Drive	St Helens Park	Campbelltown	LGOV

There was a total of 4 records matching your search criteria.

Key:

LGA = Local Government Area

GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.

Note: While Heritage NSW seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

Appendix D

EPA Register Search Results

Search results

Your search for:Suburb: ST HELENS PARK

Search Again
Refine Search

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register.POEO public register

5 March 2021

Search results

Your search for: **General Search** with the following criteria

Suburb - st helens park

returned 0 result

Search Again

For business and industry

For local government

Contact us

131 555 (tel:131555)

Online (https://yoursay.epa.nsw.gov.au/epa-website-feedback)

info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)

EPA Office Locations (https://www.epa.nsw.gov.au/about-us/contact-us/locations)

Suburb	SiteName	Address	ContaminationActivityType	ManagementClass	Latitude	Longitude
SPRINGVALE	Springvale Colliery	Castlereagh HIGHWAY	Other Industry	Regulation under CLM Act not required	-33.40334736	150.1070462
ST CLAIR	7-Eleven (former Mobil) Service Station	4 Endeavour AVENUE	Service Station	Regulation under CLM Act not required	-33.79430926	150.7885793
ST IVES	7-Eleven (former Mobil) St Ives Service Station	157-159 Mona Vale Road, corner Putarri AVENUE	Service Station	Regulation under CLM Act not required	-33.73265301	151.1563899
ST IVES	Caltex Service Station	452 Mona Vale ROAD	Service Station	Regulation under CLM Act not required	-33.70752272	151.187545

Appendix E
Land Title Search Results

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
5/3/2021 3:51PM

FOLIO: 6202/1203930

First Title(s): OLD SYSTEM
Prior Title(s): 6111/1203927

Recorded	Number	Type of Instrument	C.T. Issue
8/9/2017	DP1203930	DEPOSITED PLAN	FOLIO CREATED EDITION 1
26/8/2019	AP158557	LEASE	
26/8/2019	AP158558	LEASE	
26/8/2019	AP158559	LEASE	
26/8/2019	AP158560	LEASE	
26/8/2019	AP158561	LEASE	EDITION 2
10/9/2019	AP523629	DEPARTMENTAL DEALING	EDITION 3
24/9/2019	AP558445	DEPARTMENTAL DEALING	EDITION 4
22/10/2019	AP622407	DEPARTMENTAL DEALING	EDITION 5

*** END OF SEARCH ***

Helens-AP21 PRINTED ON 5/3/2021

Search Date/Time: **05/03/2021 3:51PM**

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
5/3/2021 3:58PM

FOLIO: 6111/1203927

First Title(s): OLD SYSTEM
Prior Title(s): 5210/1193880

Recorded	Number	Type of Instrument	C.T. Issue
6/9/2017	DP1203927	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
8/9/2017	DP1203930	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

Helens-AP21 PRINTED ON 5/3/2021

Search Date/Time: **05/03/2021 3:58PM**

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
6/3/2021 10:58AM

FOLIO: 5210/1193880

First Title(s): OLD SYSTEM
Prior Title(s): 5324/1189779

Recorded	Number	Type of Instrument	C.T. Issue
12/3/2014	DP1193880	DEPOSITED PLAN	FOLIO CREATED EDITION 1
6/9/2017	DP1203927	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Helens-AP21 PRINTED ON 6/3/2021

Search Date/Time: **06/03/2021 10:58AM**

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
6/3/2021 11:02AM

FOLIO: 5324/1189779

First Title(s): OLD SYSTEM
Prior Title(s): 5125/1178566

Recorded	Number	Type of Instrument	C.T. Issue
16/10/2013	DP1189779	DEPOSITED PLAN	FOLIO CREATED EDITION 1
12/3/2014	DP1193880	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Helens-AP21 PRINTED ON 6/3/2021

Search Date/Time: **06/03/2021 11:02AM**

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
6/3/2021 11:04AM

FOLIO: 5125/1178566

First Title(s): OLD SYSTEM
Prior Title(s): 4314/1056091

Recorded	Number	Type of Instrument	C.T. Issue
28/9/2012	DP1178566	DEPOSITED PLAN	FOLIO CREATED EDITION 1
16/10/2013	DP1189779	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

Helens-AP21 PRINTED ON 6/3/2021

Search Date/Time: **06/03/2021 11:03AM**

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
6/3/2021 11:06AM

FOLIO: 4314/1056091

First Title(s): OLD SYSTEM
Prior Title(s): 4214/1056088

Recorded	Number	Type of Instrument	C.T. Issue
24/7/2003	DP1056091	DEPOSITED PLAN	FOLIO CREATED EDITION 1
25/9/2012	AH241645	RELEASE OR EXTINGUISHMENT OF RESTRICTION ON THE USE OF LAND	
25/9/2012	AH241646	RELEASE OR EXTINGUISHMENT OF RESTRICTION ON THE USE OF LAND	
28/9/2012	DP1178566	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

Helens-AP21 PRINTED ON 6/3/2021

Search Date/Time: **06/03/2021 11:06AM**

PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURE AND SEALS ONLY.

G & M AMALGAMATED INVESTMENTS (DULWICH HILL) PTY LTD Common Seal A.C.N. 000 699 221

Dir. Sec.

G & M ASSOCIATED INVESTMENTS (DULWICH HILL) PTY LTD Common Seal A.C.N. 000 699 212

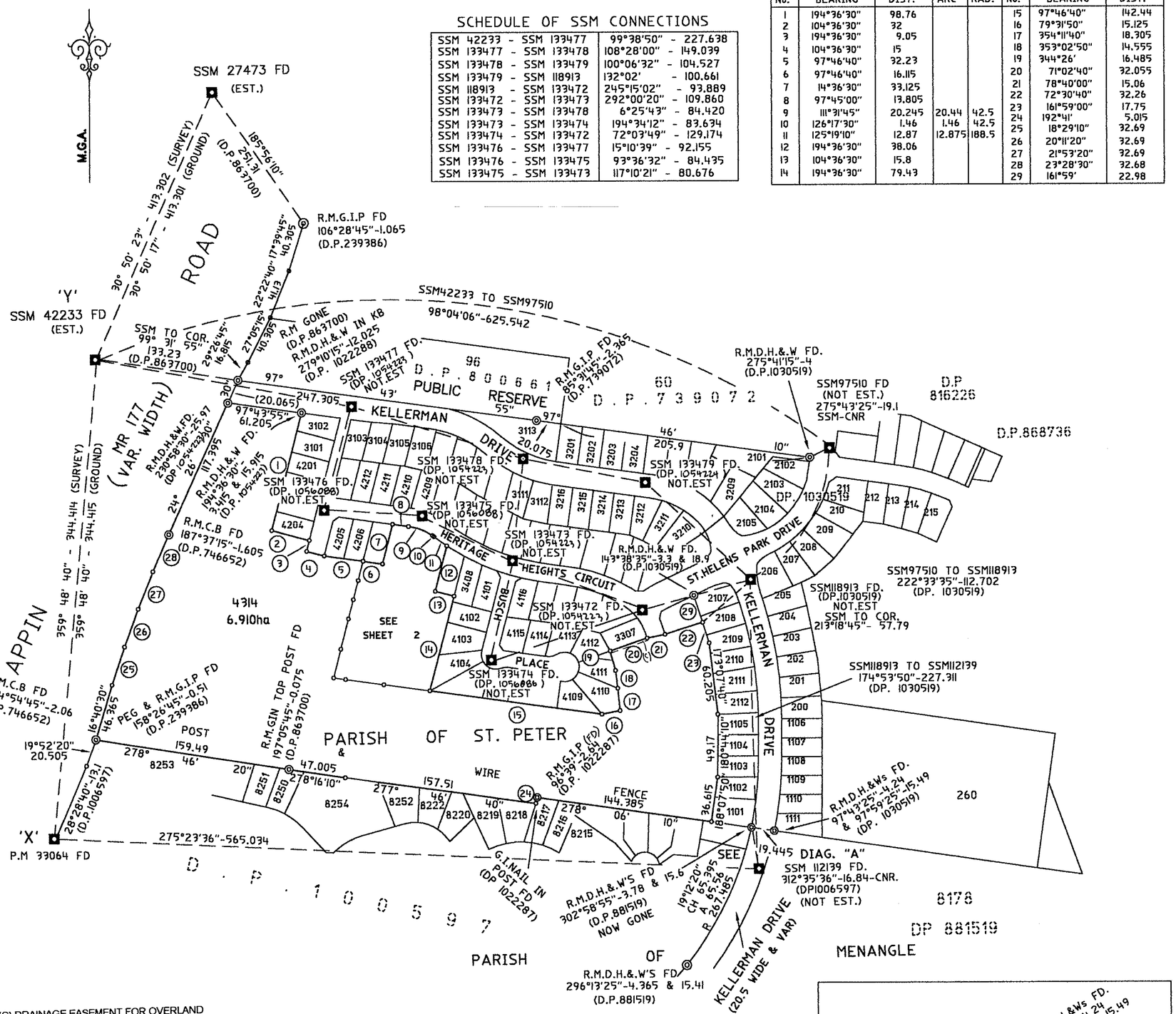
Dir. Sec.

SCHEDULE OF SSM CONNECTIONS

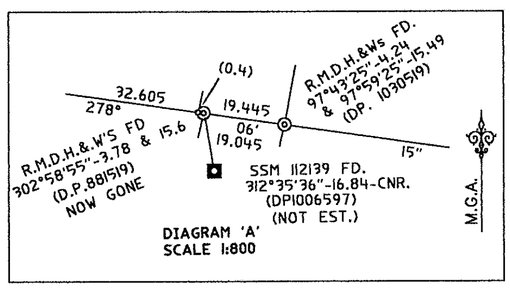
SSM 42233 - SSM 133477	99°38'50" - 227.638
SSM 133477 - SSM 133478	108°28'00" - 149.039
SSM 133478 - SSM 133479	100°06'32" - 104.527
SSM 133479 - SSM 118913	132°02' - 100.661
SSM 118913 - SSM 133472	245°15'02" - 93.889
SSM 133472 - SSM 133473	292°00'20" - 109.860
SSM 133473 - SSM 133478	6°25'43" - 84.420
SSM 133473 - SSM 133474	194°34'12" - 83.634
SSM 133474 - SSM 133472	72°03'49" - 129.174
SSM 133476 - SSM 133477	15°10'39" - 92.155
SSM 133476 - SSM 133475	93°36'32" - 84.435
SSM 133475 - SSM 133473	117°10'21" - 80.676

SCHEDULE of SHORT BOUNDARIES

No.	BEARING	DIST.	ARC	RAD.	No.	BEARING	DIST.
1	194°36'30"	98.76			15	97°46'40"	142.44
2	104°36'30"	32			16	79°31'50"	15.125
3	194°36'30"	9.05			17	354°11'40"	18.305
4	104°36'30"	15			18	353°02'50"	14.555
5	97°46'40"	32.23			19	344°26'	16.485
6	97°46'40"	16.115			20	71°02'40"	32.055
7	14°36'30"	33.125			21	78°40'00"	15.06
8	97°45'00"	13.805			22	72°30'40"	32.26
9	111°31'45"	20.245	20.44	42.5	23	161°59'00"	17.75
10	126°17'30"	1.46	1.46	42.5	24	192°41'	5.015
11	125°19'10"	12.87	12.875	188.5	25	18°29'10"	32.69
12	194°36'30"	38.06			26	20°11'20"	32.69
13	104°36'30"	15.8			27	21°53'20"	32.69
14	194°36'30"	79.43			28	23°28'30"	32.68
					29	161°59'	22.98



(C) DRAINAGE EASEMENT FOR OVERLAND FLOWPATH 2.5 WIDE - DP1056086



M G A TABLE ZONE 56					
COMBINED SEA LEVEL & SCALE CORR. FACTOR 1.000086					
STATION	E	N	CLASS	SOURCE	DATE
SSM27473	297371.966	6224708.346	B	SCIMS	DEC.02
PM 33064	297161.220	6224009.005	B	SCIMS	DEC.02
SSM42233	297160.084	6224353.447	B	SCIMS	DEC.02

Crown Lands Office Approval

PLAN APPROVED .....
Authorised Officer

Land District .....
Paper No. .....
Field Book ..... pages .....

Subdivison Certificate

I hereby certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to the proposed

SUBDIVISION .....set out herein
* (Insert "subdivision" or "new road")

.....
* Authorised Person/~~General Manager/Accredited Certifier~~

Consent Authority: .....

Date of endorsement : 3RD JUNE 2003

Accreditation no : .....

Subdivision Certificate no : 42 of 2003

File no. 79092-3

Note:
When the plan is to be lodged electronically in the land Titles Office it should include a signature in an electronic or digital format approved by the Registrar-General.

* Delete whichever is inapplicable

SURVEYOR'S REFERENCE: S662-STG4-3DP "C"

DP1056091

Registered 24.7.2003

Title System : TORRENS

Purpose : SUBDIVISION

Ref Map : U9322 - 9, U8222 - 7

Last Plan : DP1056088

PLAN
OF SUBDIVISION OF LOT 4214
IN DP 1056088

Lengths are in metres. Reduction Ratio 1:2500

L G A : CAMPBELLTOWN

Suburb/Locality: St HELENS PARK

Parish: St PETER

County: CUMBERLAND

This is sheet 1 of my plan in 2 sheets.
(Delete if inapplicable)

Surveyors (Practice) Regulation 2001

I, GORDON PATRICK WREN

of GRINSELL & JOHNS PTY LTD

a surveyor registered under the Surveyors Act, 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Surveyors (Practice) Regulation 2001 and was completed on 18.2.03

The survey relates to THE WHOLE
(specify the land actually surveyed, or specify any land shown in the plan that is not the subject of the survey)

(Signature) ..... Dated 12/5/03

Surveyor registered under the surveyors Act 1929

Datum Line: X-Y

Type: Urban/Rural

Plans used in preparation of survey/compilation.

DP239386	DP716069	DP739072
DP746652	DP863700	DP868736
DP881519	DP 1030519	

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

IT IS INTENDED TO DEDICATE LOVELY PLACE TO THE PUBLIC AS ROAD

PURSUANT TO SEC.88B OF THE CONVEYANCING ACT 1919-1964 AS AMENDED IT IS INTENDED TO CREATE:

1. EASMENT TO DRAIN WATER 1.5m WIDE
2. RESTRICTION ON USE OF LAND
3. RESTRICTION ON USE OF LAND

CAMPBELLTOWN CITY COUNCIL
ACCEPTED

~~GENERAL MANAGER~~/AUTHORISED PERSON

*OFFICE USE ONLY

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

PLAN FORM 3 To be used in conjunction with Plan Form 2

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

*OFFICE USE ONLY

DP1056091

Registered 24.7.2003

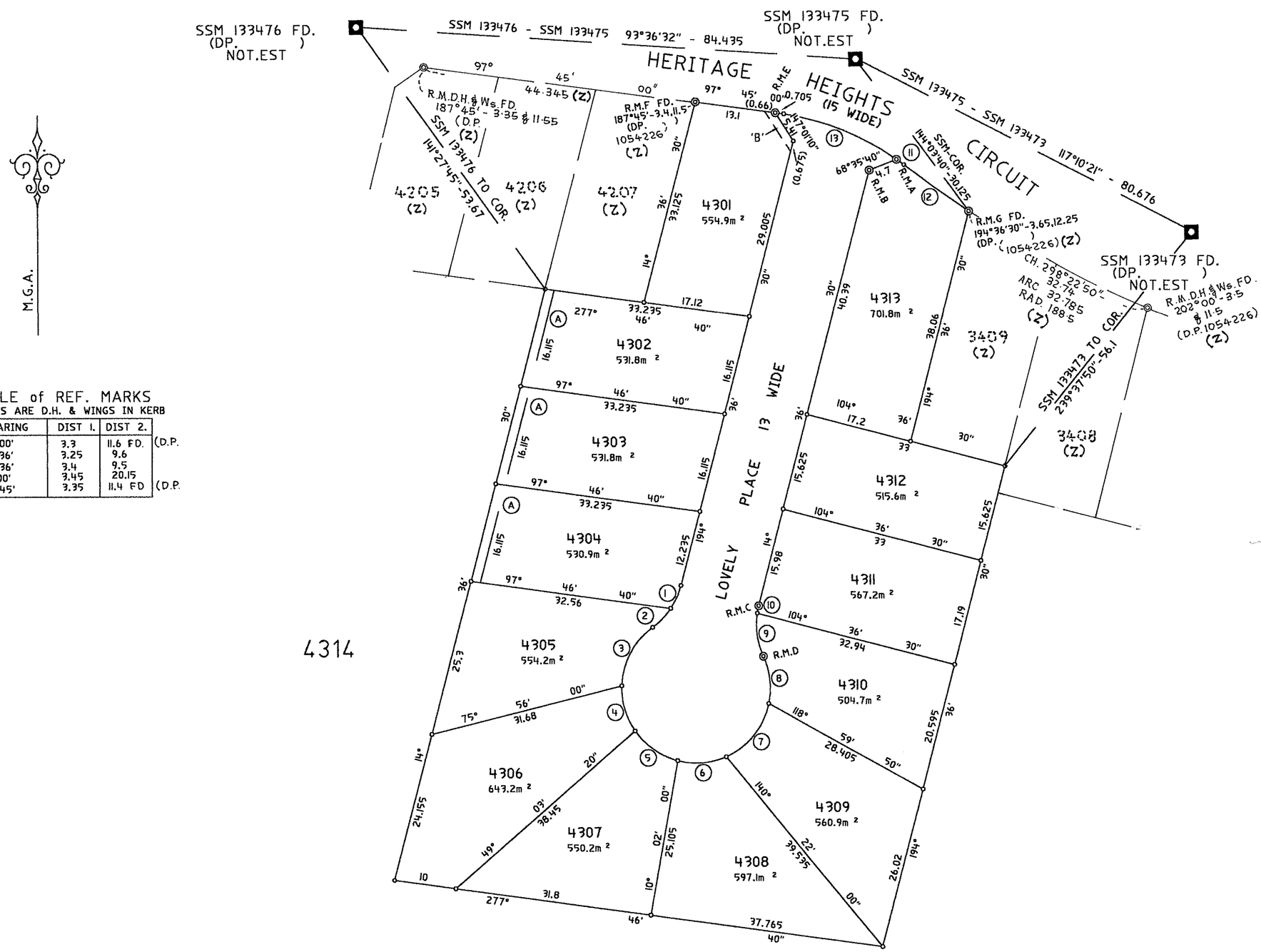
This is sheet 2 of my plan in 2 sheets dated 12/05/03

Surveyor registered under Surveyors Act 1929

This is sheet 2 of the plan of 2 sheets covered by Subdivision Certificate No. of

Authorised Person/~~General Manager/Accredited Certifier~~

For use where space is insufficient in any panel on Plan Form 2.



M.G.A.

SCHEDULE of REF. MARKS

ALL REF. MARKS ARE D.H. & WINGS IN KERB

No.	BEARING	DIST 1.	DIST 2.	
A	215°00'	3.3	11.6 FD.	(D.P.
B	104°36'	3.25	9.6	
C	104°36'	3.4	9.5	
D	73°00'	3.45	20.15	
E	187°45'	3.35	11.4 FD	(D.P.

SCHEDULE of CURVED BOUNDARIES

No.	BEARING	CHORD	ARC	RADIUS	No.	BEARING	CHORD	ARC	RADIUS
1	204°14'40"	4.015	4.035	12	8	353°31'00"	7.605	7.74	12
2	224°01'50"	4.23	4.25	12	9	351°56'00"	6.975	7.08	12
3	208°02'10"	10.575	10.95	12	10	11°43'10"	1.21	1.21	12
4	163°35'30"	7.535	7.665	12	11	126°17'30"	1.46	1.46	42.5
5	124°57'00"	8.345	8.52	12	12	125°19'10"	12.87	12.875	188.5
6	85°30'30"	7.855	8	12	13	111°31'45"	20.245	20.44	42.5
7	39°12'10"	10.975	11.395	12					

4314

(A) EASEMENT TO DRAIN WATER 1.5 WIDE

'B' RESTRICTION ON THE USE OF LAND

(Z) ADDITIONS BY ME DATED 26-6-03

Reduction Ratio 1:500

Plan Drawing only to appear in this space

SURVEYOR'S REFERENCE: S662-STG4-3DP "C"

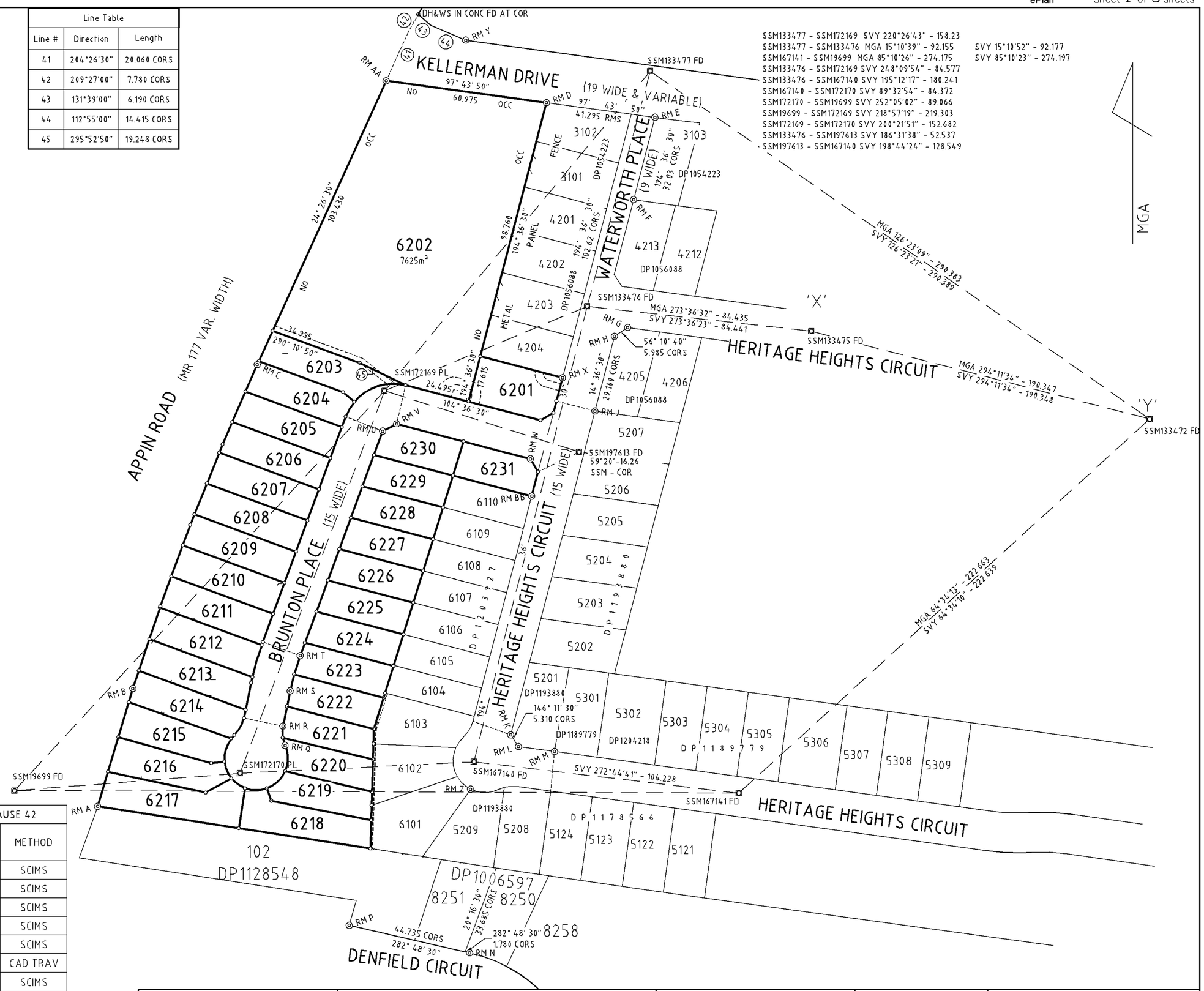
PLAN FORM 2 (A2) DP1203930

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

ePlan

REFERENCE MARKS				
RM	BEARING	DIST	DESC	DP
A	158°26'40"	0.51	GIP FD	DP239386
B	334°54'45"	2.06	CONC BLK FD	DP746652
C	187°37'15"	1.605	CONC BLK FD	DP746652
D	194°36'30"	3.415 & 15.915	DH&W FD	DP1054223
E	187°45'	3.4 & 15.75	DH&W FD	DP1054223
F	72°05'	1.7 & 6.55	DH&W FD	DP1056088
G	187°45'	3.35 & 11.55	DH&W FD	DP1056088
H	104°36'30"	3.35 & 11.5	DH&W FD	DP1056088
J	135°43'	3.9 & 13.45	DH&W FD	DP1056088
K	104°36'30"	3.3 & 11.445	DH&W FD	DP1178566
L	7°46'40"	3.305 & 11.655	DH&W FD	DP1178566
M	5°36'	3.355 & 11.405	DH&W FD	DP1178566
N	12°48'30"	3.45 & 11.525	DH&W FD	DP1006597
P	355°13'10"	7.02 & 26.57	DH&W FD	DP1006597
Q	70°13'40"	3.66	DH&W	PLACED
	55°57'20"	19.74	SSM172170	PLACED
R	100°02'	3.575	DH&W	PLACED
	101°12'40"	11.255	DH&W	PLACED
S	131°09'20"	4.1	DH&W	PLACED
	103°34'50"	11.25	DH&W	PLACED
T	107°48'10"	3.565	DH&W	PLACED
	110°05'10"	11.25	DH&W	PLACED
U	97°15'40"	3.68	DH&W	PLACED
	96°52'10"	11.58	DH&W	PLACED
V	161°12'20"	3.97	DH&W	PLACED
	154°29'50"	12.2	SSM172169	PLACED
W	205°34'30"	3.635	DH&W	PLACED
	191°24'50"	11.37	DH&W	PLACED
X	316°03'50"	4.075	DH&W FD	DP1203927
Y	74°05'	2.025	DH&W FD	DP1068130
Z	205°06'40"	3.4	DH&W FD	DP1203927
AA	152°44'20"	7.125	DH&W FD	DP1203927
BB	284°05'	3.55	DH&W	PLACED

Line Table		
Line #	Direction	Length
41	204°26'30"	20.060 CORS
42	209°27'00"	7.780 CORS
43	131°39'00"	6.190 CORS
44	112°55'00"	14.415 CORS
45	295°52'50"	19.248 CORS



SURVEYING AND SPATIAL INFORMATION REGULATION 2012 CLAUSE 42						
MARK	MGA COORDINATES		ZONE	CLASS	ORDER	METHOD
	EASTING	NORTHING				
SSM19699	297143.975	6224024.331	56	A	1	SCIMS
SSM133472	297618.306	6224143.020	56	C	3	SCIMS
SSM133475	297444.663	6224221.032	56	C	3	SCIMS
SSM133476	297360.389	6224226.347	56	C	3	SCIMS
SSM133477	297384.518	6224315.295	56	C	3	SCIMS
SSM167140	297313.128	6224052.426	56	U	U	CAD TRAV
SSM167141	297417.200	6224047.400	56	E	5	SCIMS
SSM172169	297281.893	6224194.889	56	U	U	CAD TRAV
SSM172170	297228.766	6224051.761	56	U	U	CAD TRAV
MGA COORDINATES ADOPTED FROM SCIMS AS AT 22 FEB 2016						
COMBINED SEA LEVEL & SCALE FACTOR 1.000079						

Surveyor: ADRIAN BARDEN
Date of Survey: 27-06-2016
Surveyors Ref: S662-6-8-2

PLAN OF SUBDIVISION OF LOT 6111 IN DP1203927

LGA: CAMPBELLTOWN
Locality: ST HELENS PARK
Subdivision No: 51 of 2017
Lengths are in metres. Reduction Ratio 1:1000

Registered
08.09.2017

DP1203930

10 20 30 40 50 Table of mm 80 90 100 110 120 130 140 150 REV F3 (6.09.2017)

Curve Table				
Curve ID	Chord Bearing	Chord Length	Arc Length	Radius
C4	199°50'37"	1.27	1.27	107.50
C5	196°09'54"	12.53	12.54	107.50
C6	192°13'45"	2.23	2.23	107.50
C7	29°27'47"	7.35	7.47	12.00
C8	222°52'49"	1.85	1.85	12.00
C9	196°15'58"	9.07	9.30	12.00
C10	157°21'11"	6.90	7.00	12.00
C11	125°24'44"	6.30	6.38	12.00
C12	90°06'52"	8.23	8.41	12.00
C13	46°44'25"	9.50	9.76	12.00
C14	359°42'15"	9.66	9.94	12.00
C15	163°16'16"	3.05	3.06	12.00
C16	181°06'16"	4.39	4.41	12.00
C17	193°36'37"	6.38	6.38	92.50
C18	197°53'00"	7.42	7.42	92.50
C19	31°23'06"	6.93	7.03	12.00
C20	216°09'57"	4.99	5.03	12.00
C21	177°07'46"	10.91	11.32	12.00
C22	133°08'27"	7.00	7.10	12.00

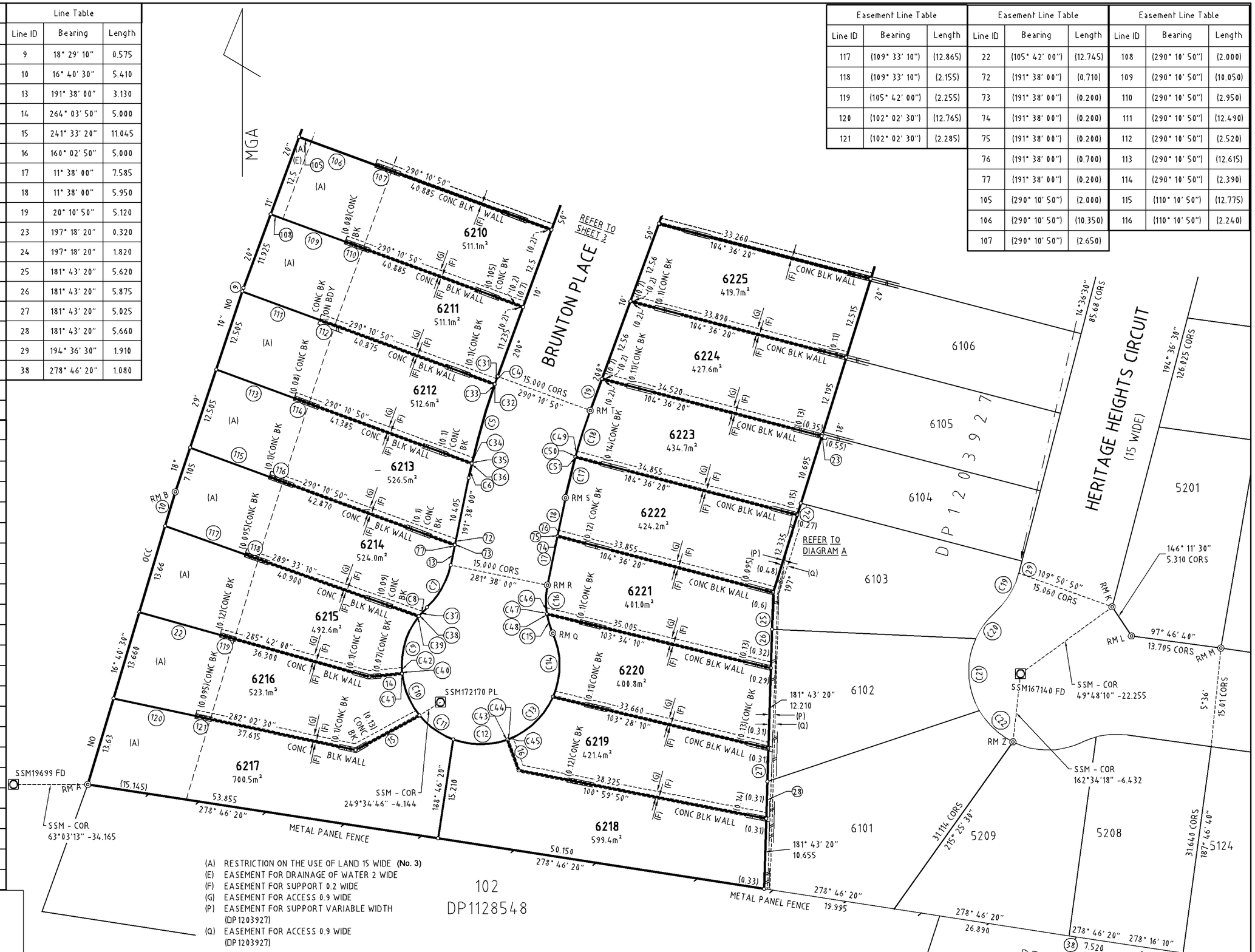
Line Table		
Line ID	Bearing	Length
9	18° 29' 10"	0.575
10	16° 40' 30"	5.410
13	191° 38' 00"	3.130
14	264° 03' 50"	5.000
15	241° 33' 20"	11.045
16	160° 02' 50"	5.000
17	11° 38' 00"	7.585
18	11° 38' 00"	5.950
19	20° 10' 50"	5.120
23	197° 18' 20"	0.320
24	197° 18' 20"	1.820
25	181° 43' 20"	5.620
26	181° 43' 20"	5.875
27	181° 43' 20"	5.025
28	181° 43' 20"	5.660
29	194° 36' 30"	1.910
38	278° 46' 20"	1.080

Easement Curve Table				
Curve ID	Chord Bearing	Chord Length	Arc Length	Radius
C31	(199°53'49")	(1.07)	(1.07)	107.50
C32	(199°33'34")	(0.20)	(0.20)	107.50
C33	(199°27'10")	(0.20)	(0.20)	107.50
C34	(196°06'42")	(12.33)	(12.34)	107.50
C35	(196°06'42")	(12.33)	(12.34)	107.50
C36	(192°13'45")	(2.23)	(2.23)	107.50
C37	(221°16'47")	(0.75)	(0.75)	12.00
C38	(218°58'27")	(0.21)	(0.21)	12.00
C39	(217°57'53")	(0.21)	(0.21)	12.00
C40	(174°32'30")	(0.20)	(0.20)	12.00
C41	(173°35'12")	(0.20)	(0.20)	12.00
C42	(176°41'33")	(0.70)	(0.70)	12.00
C43	(70°31'29")	(0.20)	(0.20)	12.00
C44	(69°34'11")	(0.20)	(0.20)	12.00
C45	(67°25'09")	(0.70)	(0.70)	12.00
C46	(173°23'10")	(0.75)	(0.75)	12.00
C47	(171°05'19")	(0.22)	(0.22)	12.00
C48	(170°02'54")	(0.22)	(0.22)	12.00
C49	(195°55'36")	(0.70)	(0.70)	92.50
C50	(195°38'53")	(0.20)	(0.20)	92.50
C51	(195°31'27")	(0.20)	(0.20)	92.50

Easement Line Table		
Line ID	Bearing	Length
117	(109° 33' 10")	(12.865)
118	(109° 33' 10")	(2.155)
119	(105° 42' 00")	(2.255)
120	(102° 02' 30")	(12.765)
121	(102° 02' 30")	(2.285)

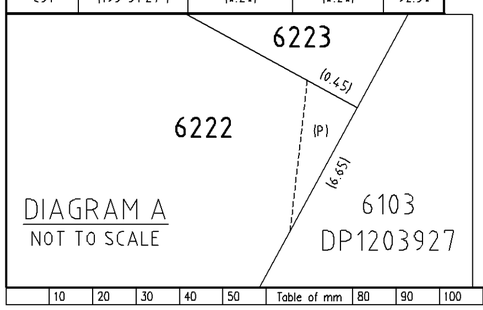
Easement Line Table		
Line ID	Bearing	Length
22	(105° 42' 00")	(12.745)
72	(191° 38' 00")	(0.710)
73	(191° 38' 00")	(0.200)
74	(191° 38' 00")	(0.200)
75	(191° 38' 00")	(0.200)
76	(191° 38' 00")	(0.700)
77	(191° 38' 00")	(0.200)
105	(290° 10' 50")	(2.000)
106	(290° 10' 50")	(10.350)
107	(290° 10' 50")	(2.650)

Easement Line Table		
Line ID	Bearing	Length
108	(290° 10' 50")	(2.000)
109	(290° 10' 50")	(10.050)
110	(290° 10' 50")	(2.950)
111	(290° 10' 50")	(12.490)
112	(290° 10' 50")	(2.520)
113	(290° 10' 50")	(12.615)
114	(290° 10' 50")	(2.390)
115	(110° 10' 50")	(12.775)
116	(110° 10' 50")	(2.240)



(A) RESTRICTION ON THE USE OF LAND 15 WIDE (No. 3)
(E) EASEMENT FOR DRAINAGE OF WATER 2 WIDE
(F) EASEMENT FOR SUPPORT 0.2 WIDE
(G) EASEMENT FOR ACCESS 0.9 WIDE
(P) EASEMENT FOR SUPPORT VARIABLE WIDTH (DP1203927)
(Q) EASEMENT FOR ACCESS 0.9 WIDE (DP1203927)

REFER TO REFERENCE MARK TABLE ON SHEET 1



Surveyor: ADRIAN BARDEN Date of Survey: 27-06-2016 Surveyors Ref: S662-6-8-2	PLAN OF SUBDIVISION OF LOT 6111 IN DP1203927	LGA: CAMPBELLTOWN Locality: ST HELENS PARK Subdivision No: 51 of 2017 Lengths are in metres. Reduction Ratio 1:400

Registered 08.09.2017

DP1203930

10 20 30 40 50 Table of mm 80 90 100 110 120 130 140 150 REV F3 (6.09.2017)

Line Table		
Line ID	Bearing	Length
1	239° 36' 30"	5.655
6	24° 26' 30"	1.435
7	21° 53' 20"	3.440
8	21° 53' 20"	4.235
11	310° 52' 00"	5.500
12	200° 10' 50"	4.180
20	62° 23' 40"	5.925
21	149° 36' 30"	5.655
45	295° 52' 50"	19.250

Easement Line Table		
Line ID	Bearing	Length
46	(284° 36' 30")	(2.950)
47	(284° 36' 20")	(1.800)
48	(284° 36' 20")	(5.750)
49	(284° 36' 30")	(1.000)
50	(284° 36' 20")	(0.640)
51	(284° 36' 30")	(3.360)
52	(194° 36' 30")	(2.750)
53	(194° 48' 10")	(2.095)
54	(194° 36' 30")	(3.970)
55	(14° 36' 30")	(2.960)
56	(284° 48' 40")	(5.715)
57	(283° 49' 40")	(3.195)
58	(104° 36' 20")	(5.500)
59	(195° 17' 20")	(2.980)
60	(194° 43' 10")	(2.065)
61	(14° 36' 30")	(2.750)
62	(194° 36' 30")	(3.680)

Easement Line Table		
Line ID	Bearing	Length
63	(104° 36' 20")	(3.000)
64	(104° 36' 30")	(7.515)
65	(194° 36' 30")	(2.300)
66	(194° 36' 30")	(2.700)
67	(284° 36' 30")	(5.510)
68	(284° 36' 30")	(4.595)
78	(25° 52' 50")	(0.700)
79	(25° 52' 50")	(0.200)
80	(115° 52' 50")	(19.295)
81	(115° 52' 50")	(19.260)
82	(110° 10' 50")	(34.990)
83	(110° 10' 50")	(34.975)
84	(24° 26' 30")	(0.700)
85	(24° 26' 30")	(0.200)
86	(24° 26' 30")	(0.200)
87	(110° 10' 50")	(2.005)
88	(110° 10' 50")	(11.370)
89	(110° 10' 50")	(1.665)
90	(290° 10' 50")	(2.005)
91	(290° 10' 50")	(10.385)
92	(290° 10' 50")	(2.635)
93	(290° 10' 50")	(2.005)
94	(290° 10' 50")	(10.480)
95	(290° 10' 50")	(2.540)
96	(110° 10' 50")	(2.000)
97	(110° 10' 50")	(9.890)
98	(110° 10' 50")	(3.115)

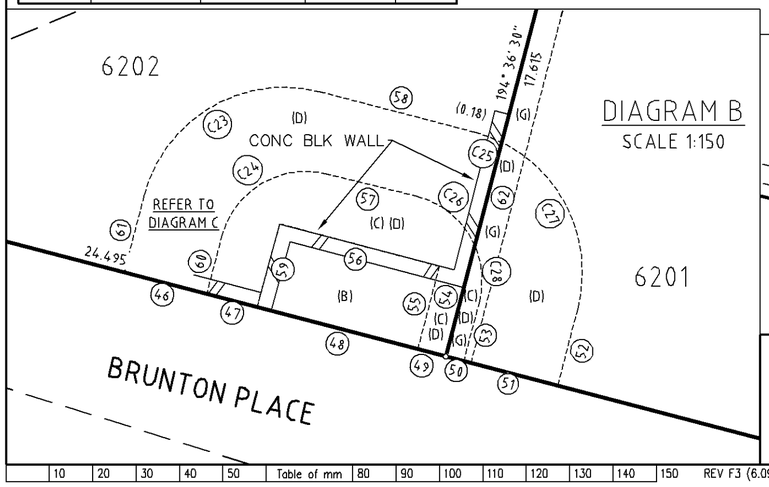
Easement Line Table		
Line ID	Bearing	Length
99	(110° 10' 50")	(2.000)
100	(110° 10' 50")	(9.860)
101	(110° 10' 50")	(3.145)
102	(110° 10' 50")	(2.000)
103	(110° 10' 50")	(10.085)
104	(110° 10' 50")	(2.920)
123	(24° 26' 30")	(1.105)
125	(290° 10' 50")	(35.155)
126	(127° 41' 50")	(11.980)
127	(127° 41' 50")	(0.975)

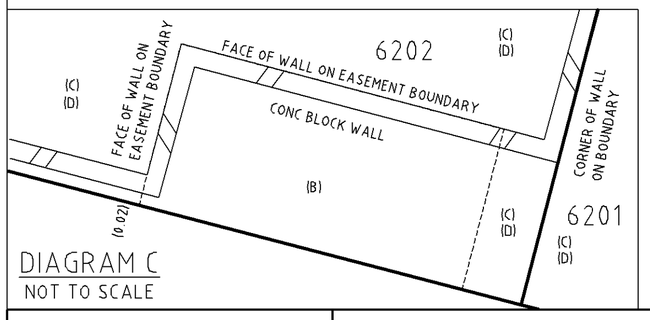
Curve Table				
Curve ID	Chord Bearing	Chord Length	Arc Length	Radius
C1	252°11'01"	20.35	21.48	19.00
C3	209°59'22"	6.47	6.51	19.00
C23	239°36'25"	7.07	7.85	5.00
C24	239°16'26"	4.21	4.67	3.00
C25	290°22'32"	1.01	1.01	5.00
C26	310°00'42"	144.07	2.74	3.00
C27	335°22'33"	6.32	6.85	5.00
C28	355°29'59"	144.06	2.02	3.00
C29	149°36'24"	7.07	7.85	5.00
C30	142°51'38"	3.71	4.01	3.00

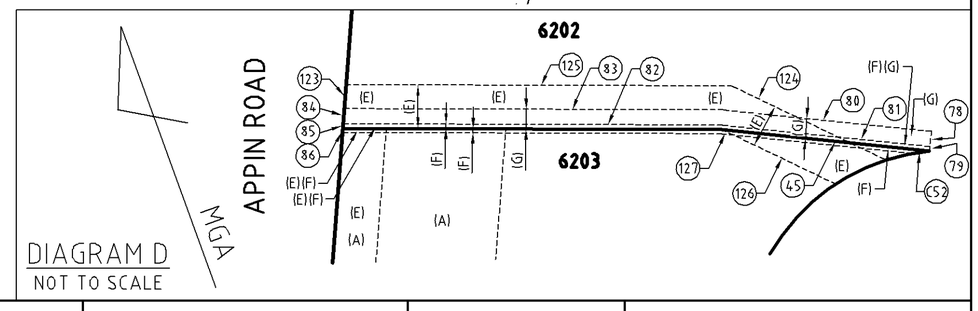
Easement Curve Table				
Curve ID	Chord Bearing	Chord Length	Arc Length	Radius
C52	(283°13'47")	(0.91)	(0.91)	19.00
C53	(221°27'25")	(0.70)	(0.70)	19.00
C54	(220°05'59")	(0.20)	(0.20)	19.00
C55	(219°29'47")	(0.20)	(0.20)	19.00
C61	(242°49'19")	(13.19)	(13.47)	19.00

(A) RESTRICTION ON THE USE OF LAND 15 WIDE **(No. 3)**
(B) EASEMENT FOR PADMOUNT SUBSTATION VAR WIDTH
(C) RESTRICTION ON THE USE OF LAND **(No. 6)**
(D) RESTRICTION ON THE USE OF LAND **(No. 7)**
(E) EASEMENT FOR DRAINAGE OF WATER 2 WIDE
(F) EASEMENT FOR SUPPORT 0.2 WIDE
(G) EASMENT FOR ACCESS 0.9 WIDE
(H) EASEMENT FOR SUPPORT 0.2 WIDE (DP1203927)
(J) EASEMENT FOR ACCESS 0.9 WIDE (DP1203927)

REFER TO REFERENCE MARK TABLE ON SHEET 1







Surveyor: ADRIAN BARDEN
Date of Survey: 27-06-2016
Surveyors Ref: S662-6-8-2

PLAN OF SUBDIVISION OF LOT 6111 IN DP1203927

LGA: CAMPBELLTOWN
Locality: ST HELENS PARK
Subdivision No: 51 of 2017
Lengths are in metres. Reduction Ratio 1:400

Registered
08.09.2017

DP1203930

10 20 30 40 50 Table of mm 80 90 100 110 120 130 140 150 REV F3 (6.09.2017)

PLAN FORM 6 (2013) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 08.09.2017

Title System: TORRENS

Purpose: SUBDIVISION

Office Use Only

DP1203930

PLAN OF SUBDIVISION OF LOT 6111 IN DP1203927

LGA: CAMPBELLTOWN

Locality: ST HELENS PARK

Parish: ST PETER

County: CUMBERLAND

Crown Lands NSW/Western Lands Office Approval

I, ... (Authorised Officer) in approving this plan certify that all necessary approvals in regard to the allocation of the land shown herein have been given.

Signature: .....

Date: .....

File Number: .....

Office: .....

Subdivision Certificate

I, **Andrew MacGee**

*Authorised Person/~~*General Manager/*Accredited Certifier~~, certify that the provisions of s.109J of the *Environmental Planning and Assessment Act 1979* have been satisfied in relation to the proposed subdivision, new road or reserve set out herein.

Signature: .....

Accreditation number: –

Consent Authority: Campbelltown City Council

Date of endorsement: 10 Aug 2017

Subdivision Certificate number: 51 of 2017

File number: S113/1997 - Stage 6.2

*Strike through if inapplicable.

Survey Certificate

I, Adrian Phillip Barden

of Grinsell & Johns P/L PO Box 150 BANKSTOWN NSW 1885

a surveyor registered under the *Surveying and Spatial Information Act 2002*, certify that:

*(a) The land shown in the plan was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on 27 June 2016

~~*(b) The part of the land shown in the plan (*being/*excluding ^.....~~

~~.....)~~

~~was surveyed in accordance with the *Surveying and Spatial Information Regulation 2012*, is accurate and the survey was completed on,..... the part not surveyed was compiled in accordance with that Regulation.~~

~~*(c) The land shown in this plan was compiled in accordance with the *Surveying and Spatial Information Regulation 2012*.~~

Signature: .....Dated: 25 July 2016

Surveyor ID: 23

Datum Line: X-Y

Type: *Urban/~~*Rural~~

The terrain is *Level-Undulating / ~~*Steep-Mountainous~~.

*Strike through if inapplicable.

^Specify the land actually surveyed or specify any land shown in the plan that is not the subject of the survey.

Statements of intention to dedicate public roads create public reserves and drainage reserves, acquire/resume land.

IT IS INTENDED TO DEDICATE TO THE PUBLIC AS PUBLIC ROAD

1. BRUNTON PLACE

Plans used in the preparation of survey/~~compilation~~.

DP2475	DP1052540	DP1178566
DP219698	DP1054223	DP1193880
DP239386	DP1056088	DP1203927
DP586076	DP1068130	
DP746652	DP1074727	
DP827578	DP1087825	
DP878282	DP1110870	
DP1006597	DP1110982	
DP1016375	DP1128548	
DP1028117	DP1154630	

If space is insufficient continue on PLAN FORM 6A

Signatures, Seals and Section 88B Statements should appear on PLAN FORM 6A

Surveyor's Reference: S662-6-8-2

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 08.09.2017

Office Use Only

DP1203930

PLAN OF SUDIVISION OF LOT 6111 IN DP1203927

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

Subdivision Certificate number: 51 of 2017

Date of Endorsement: 10 Aug 2017

STREET ADDRESSES:

Lot	Street number	Street name	Street type	Locality
6201	42	Heritage Heights	Circuit	St Helens Park
6202	Not Available			
6203	10	Brunton	Place	St Helens Park
6204	12	Brunton	Place	St Helens Park
6205	14	Brunton	Place	St Helens Park
6206	16	Brunton	Place	St Helens Park
6207	18	Brunton	Place	St Helens Park
6208	20	Brunton	Place	St Helens Park
6209	22	Brunton	Place	St Helens Park
6210	24	Brunton	Place	St Helens Park
6211	26	Brunton	Place	St Helens Park
6212	28	Brunton	Place	St Helens Park
6213	30	Brunton	Place	St Helens Park
6214	32	Brunton	Place	St Helens Park
6215	34	Brunton	Place	St Helens Park
6216	36	Brunton	Place	St Helens Park
6217	38	Brunton	Place	St Helens Park
6218	27	Brunton	Place	St Helens Park
6219	25	Brunton	Place	St Helens Park
6220	23	Brunton	Place	St Helens Park
6221	21	Brunton	Place	St Helens Park
6222	19	Brunton	Place	St Helens Park
6223	17	Brunton	Place	St Helens Park
6224	15	Brunton	Place	St Helens Park
6225	13	Brunton	Place	St Helens Park
6226	11	Brunton	Place	St Helens Park
6227	9	Brunton	Place	St Helens Park
6228	7	Brunton	Place	St Helens Park
6229	5	Brunton	Place	St Helens Park
6230	3	Brunton	Place	St Helens Park
6231	44	Heritage Heights	Circuit	St Helens Park

If space is insufficient use additional annexure sheet

Surveyor's Reference:S662-6-8-2

PLAN FORM 6A (2012) WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Office Use Only

Registered: 08.09.2017

Office Use Only

DP1203930

PLAN OF SUDIVISION OF LOT 6111 IN DP1203927

Subdivision Certificate number: 51 of 2017

Date of Endorsement: 10 Aug 2017

This sheet is for the provision of the following information as required:

- A schedule of lots and addresses - See 60(c) *SSI Regulation 2012*
- Statements of intention to create and release affecting interests in accordance with section 88B *Conveyancing Act 1919*
- Signatures and seals- see 195D *Conveyancing Act 1919*
- Any information which cannot fit in the appropriate panel of sheet 1 of the administration sheets.

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT 1919 AS AMENDED IT IS INTENDED TO CREATE:

1. RESTRICTION ON THE USE OF LAND
2. RESTRICTION ON THE USE OF LAND
3. RESTRICTION ON THE USE OF LAND 15 WIDE (A)
4. RESTRICTION ON THE USE OF LAND
5. EASEMENT FOR PADMOUNT SUBSTATION (B) VAR WIDTH
6. RESTRICTION ON THE USE OF LAND (C)
7. RESTRICTION ON THE USE OF LAND (D)
8. EASEMENT FOR SUPPORT 0.2 WIDE (F)
9. EASEMENT FOR ACCESS 0.9 WIDE (G)
10. EASEMENT FOR DRAINAGE OF WATER 2 WIDE
11. RESTRICTION ON THE USE OF LAND
12. POSITIVE COVENANT
13. RESTRICTION ON THE USE OF LAND
14. RESTRICTION ON THE USE OF LAND
15. RESTRICTION ON THE USE OF LAND
16. RESTRICTION ON THE USE OF LAND
17. POSITIVE COVENANT

Executed by G.M. Amalgamated Investments (Dulwich Hill) Pty Limited **ACN** 000 699 221 in accordance with Section 127 of the Corporation Act 2001 (Cth) in the presence of:

Signature of Director	Director's Name	DATE
	John MIR	14/08/2017

Signature of Director/Secretary	Director/Secretary's Name	DATE
	ANTHONY MIR	14/08/2017

Executed by J.M. Associated Investments (Dulwich Hill) Pty Limited **ACN** 000 699 212 in accordance with Section 127 of the Corporation Act 2001 (Cth) in the presence of:

Signature of Director	Director's Name	DATE
	John MIR	14/08/2017

Signature of Director/Secretary	Director/Secretary's Name	DATE
	ANTHONY MIR	14/08/2017

If space is insufficient use additional annexure sheet

Surveyor's Reference:S662-6-8-2

Form: 07L
Release: 4·5

LEASE

New South Wales
Real Property Act 1900

AP158557M

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises th... by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

STAMP DUTY Revenue NSW use only

(A) **TORRENS TITLE**

IANNA KUZNETSOVA am authorised to make this Amendment Signed: AK Dated: 18/7/2019

Property leased

Part Folio Identifier 6202/1203930 being ~~that part shown hatched in the Plan attached as Annexure C and known as Cnr Appin Road and Kellerman Drive, St Helens Park NSW 2560~~ the whole of the Building, area under the canopy, surrounding hardstand and garden area as shown hatched on the Plan attached as Annexure C and known as 7-Eleven, Cnr Appin Road and Kellerman Drive, St Helens Park, NSW 2250

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODE
1W	SOMERSET RYCKMANS Level 5, 142 CLARENCE STREET (02) 92992000 SYDNEY NSW 2000 Reference: 120200	L

(C) **LESSOR**

GM AMALGAMATED INVESTMENTS (DULWICH HILL) PTY LIMITED ACN 000 699 221 AND JM ASSOCIATED INVESTMENTS (DULWICH HILL) PTY LIMITED ACN 000 699 212

The lessor leases to the lessee the property referred to above.

(D) Encumbrances (if applicable):

(E) **LESSEE**

7-ELEVEN STORES PTY LIMITED (ACN 005 299 427)

(F) **TENANCY:**

(G) 1. **TERM** FIVE (5) YEARS

2. **COMMENCING DATE** 17 OCTOBER 2017

3. **TERMINATING DATE** 16 OCTOBER 2022

4. With an **OPTION TO RENEW** for a period of N.A.
set out in clause N.A. of N.A.

5. With an **OPTION TO PURCHASE** set out in clause N.A. of N.A.

6. Together with and reserving the **RIGHTS** set out inclause N.A. of N.A.

7. Incorporates the provisions or additional material set out in **ANNEXURE(S)** A hereto.

8. Incorporates the provisions set out in N.A.
No. N.A.

9. The **RENT** is set out in item No. 6 of SCHEDULE ATTACHED TO ANNEXURE A

LP insisted upon lodgment SM 99

ALL HANDWRITING MUST BE IN BLOCK CAPITALS.

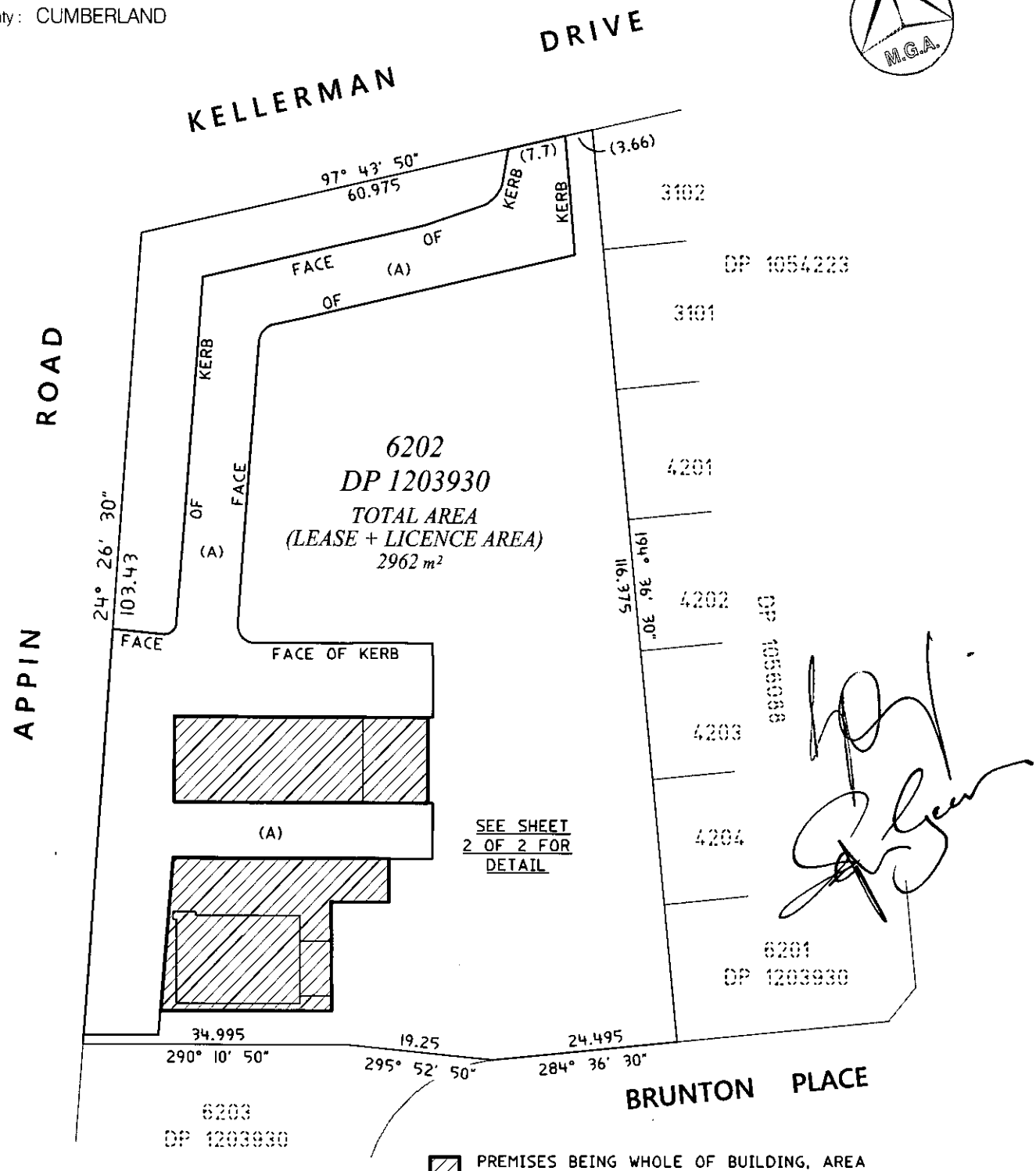
34 AK

1708

LEASE PREMISES PLAN

OVER PART OF LOT 6202 IN DP1203930
KNOWN AS "7 ELEVEN ST. HELENS PARK"
CNR. APPIN ROAD & KELLERMAN DRIVE,
ST. HELENS PARK, NSW.

LGA : CAMPBELLTOWN
Locality : ST HELENS PARK
Parish : ST PETER
County : CUMBERLAND



PREMISES BEING WHOLE OF BUILDING, AREA UNDER CANOPY, SURROUNDING HARDSTAND AND GARDEN AREA AS SHOWN HATCHED ALL KNOWN AS "7 ELEVEN" ST. HELENS PARK. LOCATION IS WITHIN THE PARCEL BOUNDARIES OF LOT 6202 IN DP 1203930. TOTAL LEASE AREA 832m²

(A) LICENCE AREA OVER CONCRETE DRIVEWAY 2130m²

PREPARED BY:

summit GEOMATIC
SUMMIT GEOMATIC PTY LTD
ABN: 71 092 947 601
PO BOX 7809, BAULKHAM HILLS B.C. NSW 2153
Ph. (02) 9836 3155 Fax (02) 9836 3177
Email: survey@summitgeo.com.au
http://www.summitgeo.com.au

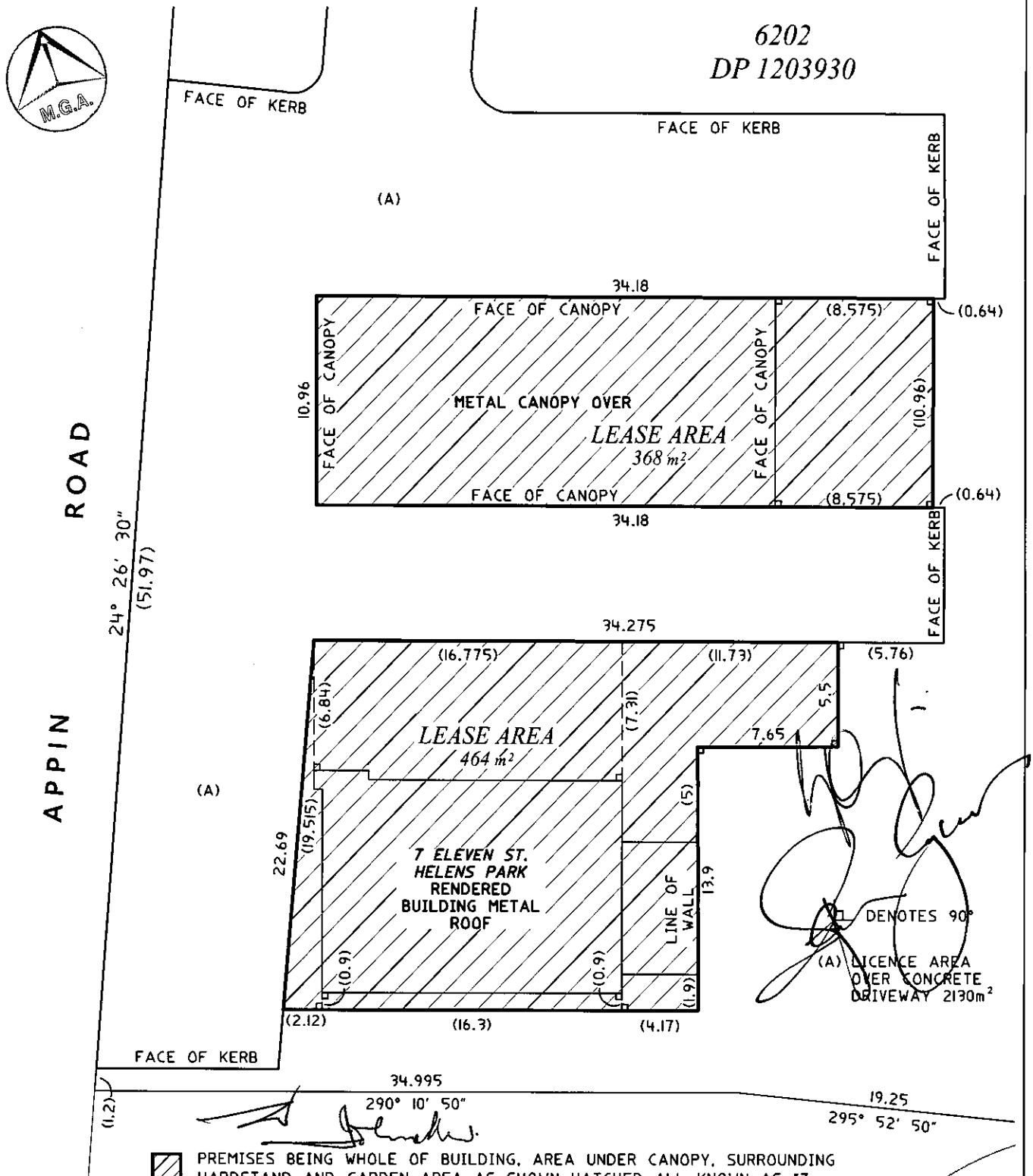
SCALE: 750
REF: 5257_LE
DATE: 6/6/2019
SHEET 1 OF 2

GREGORY JOHN BOOT
REGISTERED SURVEYOR
Summit Geomatic Registered Consulting Surveyors

LEASE PREMISES PLAN

OVER PART OF LOT 6202 IN DP1203930
KNOWN AS "7 ELEVEN ST. HELENS PARK"
CNR. APPIN ROAD & KELLERMAN DRIVE,
ST. HELENS PARK, NSW.

LGA : CAMPBELLTOWN
Locality : ST HELENS PARK
Parish : ST PETER
County : CUMBERLAND



PREMISES BEING WHOLE OF BUILDING, AREA UNDER CANOPY, SURROUNDING HARDSTAND AND GARDEN AREA AS SHOWN HATCHED ALL KNOWN AS "7 ELEVEN" ST. HELENS PARK. LOCATION IS WITHIN THE PARCEL BOUNDARIES OF LOT 6202 IN DP 1203930. TOTAL LEASE AREA 832m²

PREPARED BY:

summit GEOMATIC
SUMMIT GEOMATIC PTY LTD
ABN: 71 092 947 601
PO BOX 7809, BAULKHAM HILLS B.C. NSW 2153
Ph. (02) 9836 3155 Fax (02) 9836 3177
Email: survey@summitgeo.com.au
http://www.summitgeo.com.au

GREGORY JOHN BOOT
REGISTERED SURVEYOR
Summit Geomatic Registered Consulting Surveyors

SCALE: 300
REF: 5257_LE
DATE: 6/6/2019
SHEET 2 OF 2

EXECUTED BY GM AMALGAMATED INVESTMENTS (DULWICH HILL) PTY LIMITED (ACN 000 699 221) pursuant to section 127 of the Corporations Act 2001)

Signature of Authorised Person

DIRECTOR

Office held

ANTHONY MIR

(Print) Name of Authorised Person

Signature of Authorised Person

Office held

(Print) Name of Authorised Person

EXECUTED BY JM ASSOCIATED INVESTMENTS (DULWICH HILL) PTY LIMITED (ACN 000 699 212) pursuant to section 127 of the Corporations Act 2001)

Signature of Authorised Person

DIRECTOR

Office held

ANTHONY MIR

(Print) Name of Authorised Person

Signature of Authorised Person

Office held

MIR

(Print) Name of Authorised Person

EXECUTED BY 7-ELEVEN STORES PTY LIMITED (ACN 005 299 427) pursuant to section 127 of the Corporations Act 2001)

Signature of Authorised Person

Christopher Montgomery Barlow

Director

Office held

(Print) Name of Authorised Person

Signature of Authorised Person

Stephen Scott Eyears

Secretary

Office held

(Print) Name of Authorised Person

Appendix F
Historical Research Information
&
Historical Aerials

St Helens Park House c. 1970

Denfield Homestead c. 1985

Research References:

Campbelltown City Council, *History of St Helens Park*, viewed 6 March 2021, <https://www.campbelltown.nsw.gov.au/AboutCampbelltown/History/Historyofoursuburbs/HistoryofStHelensPark>.

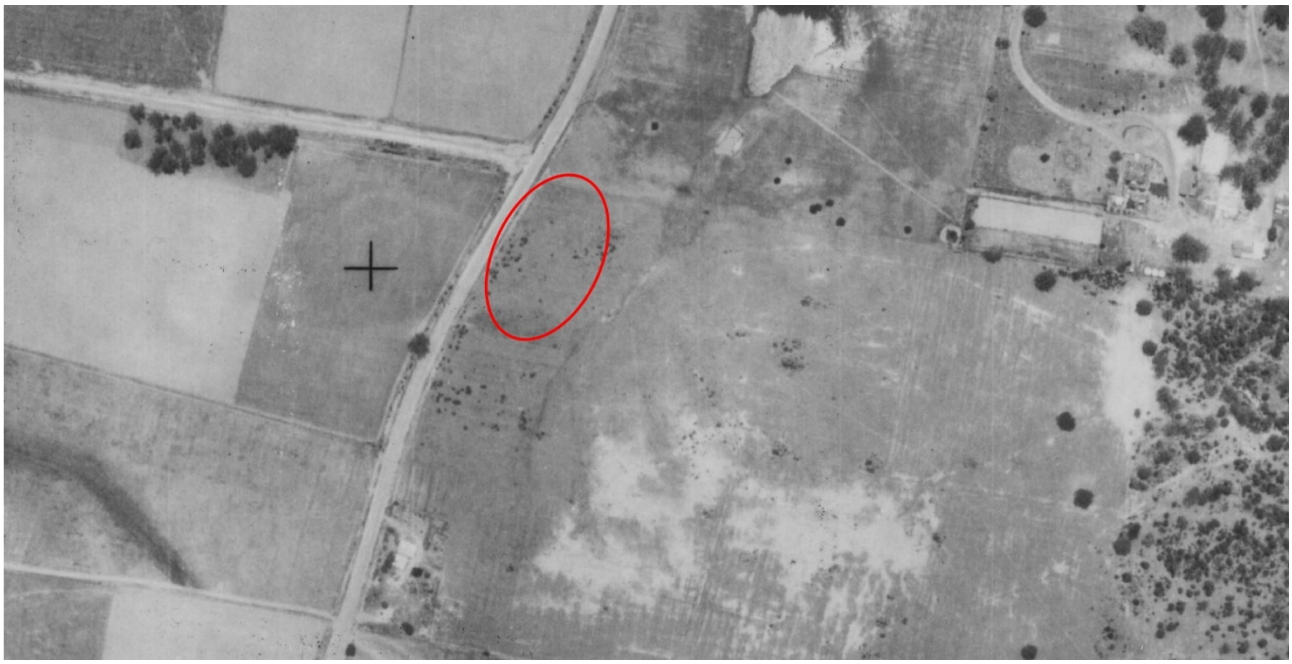
Campbelltown City Library, *St Helens Park House*, viewed 24 March 2021, <http://pictures.campbelltown.nsw.gov.au/OPIP/scripts/home.asp>.

NSW Office of Environment & Heritage, *Denfield Homestead*, viewed 6 March 2021, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1291167>.

NSW Office of Environment & Heritage, *St Helen's Park*, viewed 6 March 2021, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?id=5045441>.

Richard Lawrence, 1985, *Denfield*, viewed 24 March 2021, <http://pictures.campbelltown.nsw.gov.au/OPIP/scripts/home.asp>.

Wikipedia, *St Helens Park, New South Wales*, viewed 6 March 2021, <https://en.wikipedia.org/wiki/St_Helens_Park,_New_South_Wales>.



NSW Department of Land Property Information 1947

NSW Department of Land Property Information 1969

NSW Department of Land Property Information 1994

NSW Department of Land Property Information 2005

Google Earth Pro 2007

Nearmap 2014

Nearmap 2016

Nearmap 2017

Nearmap 2021

Appendix G
Laboratory Reports &
Results Summary Tables

Summary Table Heavy Metals and Organics Results

	METALS								BTEXN					PAHs			TRHs				Other
Analyte	**As**	**Cd**	**Cr(6+)[1]**	**Cu**	**Pb**	**Hg**	**Ni**	**Zn**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Total Xylenes**	**Naphtha-lene**	**Total PAHs**	**Carcinogenic (as BaP TEQ[2] (half LOR))**	**B(a)P**	**F1**	**F2**	**F3 (C16-C34)**	**F4 (C34-C40)**	**Asbestos**
Unit of measurement	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	% weight
Assessment criteria																					
NEPM Sch B1 (2013) HILB Table 1A(1)	500	150	500	30,000	1,200	120	1,200	60,000	NA	NA	NA	NA	NA	400	4	NA	NA	NA	NA	NA	Friable: 0.001 Bonded: 0.01
NEPM Sch B1 (2013) HSL A & B (Table 1A(3))	NA	NA	NA	NA	NA	NA	NA	NA	0.5	160	55	40	3	NA	NA	NA	45	110	NA	NA	
NEPM Sch B1 (2013) EIL (Urban residential)[5]	100	NA	203	158	1263	NA	36	363	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NEPM Sch B1 (2013) ESL (Table 1B(5-6))	NA	NA	NA	NA	NA	NA	NA	NA	50	85	70	105	170	NA	NA	0.7	180	120	300	2800	NA
Laboratory Analysis																					
Limit of reporting (LOR)	4	0.4	1	1	1	0.1	1	1	0.2	0.5	1	3	1	0.05	0.5	0.05	25	50	100	100	
SAMPLE ID																					
B1 0.15m	5	BDL	7	37	21	BDL	15	63	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	No fibres
B1 7.3m	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	BDL	BDL	BDL	BDL	-
B2 0.15m	5	BDL	8	32	21	BDL	10	58	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	No fibres
B2 2.1m	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	BDL	BDL	BDL	BDL	-
B2 8.2m	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	BDL	BDL	BDL	BDL	-
B3 0.15m	4	BDL	12	27	20	BDL	11	53	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	No fibres
B3 8.7m	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	BDL	BDL	BDL	BDL	-
B4 0.2m	BDL	BDL	5	14	9	BDL	5	24	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	No fibres
B5 0.2m	7	BDL	15	25	29	BDL	11	66	-	-	-	-	-	-	-	-	-	-	-	-	-
B6 0.2m	5	BDL	11	27	23	BDL	11	44	-	-	-	-	-	-	-	-	-	-	-	-	-
B7 0.2m	6	BDL	9	39	25	BDL	15	59	-	-	-	-	-	-	-	-	-	-	-	-	-
B8 0.2m	6	BDL	11	35	25	BDL	13	66	-	-	-	-	-	-	-	-	-	-	-	-	-
B9 0.2m	4	0.5	8	22	29	BDL	7	74	-	-	-	-	-	-	-	-	-	-	-	-	-
D1	BDL	BDL	8	21	35	BDL	5	87	-	-	-	-	-	-	-	-	-	-	-	-	-

Groundwater Results [µg/L]																				
Analyte	**As**	**Cd**	**Cr(6+)[1]**	**Cu**	**Pb**	**Hg**	**Ni**	**Zn**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes**	**Naphthalene**	**Total PAH**	**Carcinogenic (BaP TEQ[2])**	**B(a)P**	**F1[(3)]**	**F2[(4)]**	-	-	-
Unit of measurement	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	-	-	-
NEPM Sch B1 GIL Fresh Water 95%	24 (3+) 13 (5+)	0.2	1.0	1.4	3.4	0.06	11	8	950	-	-	200	16	-	-	-	-	-	-	-	-
NEPM Sch B1 GIL Marine Water 95%	-	0.7	27 (3+) 4.4 (6+)	1.3	4.4	0.1	7	15	500	-	-	-	50	-	-	-	-	-	-	-	-
NEPM Sch B1 HSL A&B Vapour Intrusion	-	-	-	-	-	-	-	-	4,000	-	-	-	-	-	-	-	6,000	-	-	-	-
ANZG (2018) Fresh water 95%	24 (3+)	0.2	3.3 (3+) 1.0 (6+)	1.4	3.4	0.6	11	8	950	180	80	75 (m) / 350 (o)	16	-	-	0.2	-	-	-	-	-
ANZG (2018) Marine water 95%	-	5.5	27 (3+) 4.4 (6+)	1.3	4.4	0.4	70	15	700	180	80	75 (m)	70	-	-	0.2	-	-	-	-	-
MW1	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	BDL	BDL	-	-	-
MW2	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	BDL	BDL	BDL	BDL	-
B3W	-	-	-	-	-	-	-	-	BDL	BDL	BDL	BDL	BDL	-	-	-	-	-	-	-	-
Key	**Red Cells** indicate values that exceed relevant Human Health Threshold Level **Green shaded** cells indicate an exceedance of an environmental or ecological threshold level BDL – Below Detection Limit (refer to laboratory reports for details) NA – Not applicable '-' - indicates not tested or no guideline level provided																				
Footnotes	1- For metals Cr6+, the assessment criteria are based on Chromium hexavalent (Cr6+) and results are based on total Chromium (Cr) 2- HIL is based on the toxicity equivalent quotient (TEQ) of 8 carcinogenic PAHs and their potency relative to B(a)P) adopted by CCME 2008 (see Schedule B 1 Guidelines on Investigation Levels for Soil and Groundwater (NEPM 2013) 3- F1 is the subtraction of the sum of BTEX concentrations from C6-C10 4- F2 is the subtraction of naphthalene from >C10-C16 5 - Background levels using the 50th percentile in old suburbs with high traffic were used as per Olszowy et al (1995) and added to the ACL provided in NEPM 2013																				

Summary Table Organochlorine and Organophosphorus Pesticides, Polychlorinated Biphenols Results

	OCPs								OPPs	PCBs
Analyte	**DDD+DDE+DDT**	**Aldrin +Dieldrin[1]**	**Total Chlordane[2]**	**Total Endosulfans[3]**	**Endrin**	**Heptachlor**	**Hexachlorobenzene (HCB)**	**Methoxychlor**	**Chlorpyrifos**	**Total PCBs[4]**
Unit of measurement	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Assessment criteria										
NEPM Sch B1 (2013) HIL-B	600	10	90	400	20	10	15	500	340	1
NEPM Sch B1 (2013) EIL (Table 1B(5))	180 (DDT only)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Limit of reporting (LOR)	0.1	<0.2	<0.2	<0.3	0.1	0.1	0.1	0.1	0.1	0.1
SAMPLE ID	**Laboratory results**									
B1 0.15m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B1 0.15m (Laboratory Duplicate)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B1 7.3m	-	-	-	-	-	-	-	-	-	-
B2 0.15m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B2 2.1m	-	-	-	-	-	-	-	-	-	-
B2 8.2m	-	-	-	-	-	-	-	-	-	-
B3 0.15m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B3 8.7m	-	-	-	-	-	-	-	-	-	-
B4 0.2m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B5 0.2m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
B6 0.2m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
B7 0.2m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
B8 0.2m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
B9 0.2m	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
D1	-	-	-	-	-	-	-	-	-	-
MW1	-	-	-	-	-	-	-	-	-	-
MW2	-	-	-	-	-	-	-	-	-	-
B3W	-	-	-	-	-	-	-	-	-	-
Key	Yellow cells indicate values that exceed relevant levels. BDL – Below Detection Limit (refer to laboratory reports for details) NA – Not applicable '-' - indicates not tested									
Footnotes	1- Laboratory does not analyse Aldrin + Dieldrin, but Aldrin and Dieldrin separately. 2- Laboratory does not analyse Total Chlordane, but gamma-Chlordane and alpha-Chlordane separately. 3- Laboratory does not analyse Total Endosulfans, but Endosulfan I, Endosulfan II, and Endosulfan Sulphate separately. 4- Positive values shown only.									

096

SCC0096

CHAIN OF CUSTODY

Canopy Enterprises - 0412 987 456

CANOPY ENTERPRISES

Client: Canopy Enterprises	Canopy Reference: Helens - AP21
Contact Person: Fenn Hinchcliffe	Canopy Comments:
Sampler: G Haid 0402 411 177	Date results required:
Email: fenn@canopyenterprises.com, gunnar@canopyenterprises.com	Or choose: (standard) / same day / 1 day / 2 day / 3 day

Sample information					Tests Required											
Laboratory Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Priority Metals	PAH	OC/OP	Comb 6	Comb 6a	Cr Suite	BTEX/TRH	PFAS				Additional Information
BH1 1	~~QA/SB~~ B1	0.15	9/3/21	Soil x 1					✓							
BH1 2	~~MSB~~ B1	7.3	"	Soil x 1							✓					
3	B2	0.15	"	Soil x 1					✓							
4	B2	2.1	"	Soil x 1							✓					
5	B2	8.2	"	Soil x 1							✓					
6	B3	0.15	"	Soil x 1					✓							
7	B3	8.7	"	Soil x 1							✓					
8	B4	0.2	"	Soil x 1					✓							
9	B5	0.2	"	Soil x 1	✓		✓									
10	B6	0.2	"	Soil x 1	✓		✓									
11	B7	0.2	"	Soil x 1	✓		✓									
12	B8	0.2	"	Soil x 1	✓		✓									
13	B9	0.2	"	Soil x 1	✓		✓									
14	D1		"	Soil x 1	✓											
15	MW1		"	water x 3							✓					
16	MW2		"	~~water~~ x 3							✓					
17	B3W		"	water x 2							✓					BTEX only

Enviroslab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No. 203844
Date Received: 10/3/21
Time Received: 830
Received By: UM
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Relinquished by (Company): Canopy Enterprises	Received by (Company): ENV SLU	Lab use only:
Print Name: G Haid	Print Name: EMuller	Samples Received Cool or Ambient (circle one)
Date & Time: 10/03/21	Date & Time: 10/3/21 830	Temperature Received at: 5.0 (if applicable)
Signature:	Signature: CM	Transported by: Hand delivered / courier

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	Canopy Enterprises Pty Ltd
Attention	Fenn Hinchcliffe

Sample Login Details

Your reference	Helens - AP21
Envirolab Reference	263849
Date Sample Received	10/03/2021
Date Instructions Received	10/03/2021
Date Results Expected to be Reported	17/03/2021

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	14 Soil, 3 Water, 3 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	5
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water
B1-0.15	✓	✓	✓	✓	✓	✓	✓	✓		
B1-7.3	✓	✓								
B2-0.15	✓	✓	✓	✓	✓	✓	✓	✓		
B2-2.1	✓	✓								
B2-8.2	✓	✓								
B3-0.15	✓	✓	✓	✓	✓	✓	✓	✓		
B3-8.7	✓	✓								
B4-0.2	✓	✓	✓	✓	✓	✓	✓	✓		
B5-0.2				✓	✓		✓			
B6-0.2				✓	✓		✓			
B7-0.2				✓	✓		✓			
B8-0.2				✓	✓		✓			
B9-0.2				✓	✓		✓			
D1-.							✓			
MW1-.									✓	✓
MW2-.									✓	✓
B3W-.									✓	

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

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CERTIFICATE OF ANALYSIS 263849

Client Details

Client	Canopy Enterprises Pty Ltd
Attention	Fenn Hinchcliffe
Address	16/40 Hilly St, Mortlake, NSW, 2137

Sample Details

Your Reference	**Helens - AP21**
Number of Samples	14 Soil, 3 Water, 3 Water
Date samples received	10/03/2021
Date completed instructions received	10/03/2021

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	17/03/2021
Date of Issue	16/03/2021

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Dragana Tomas, Senior Chemist
Jaimie Loa-Kum-Cheung, Metals Supervisor
Lucy Zhu, Asbestos Supervisor
Manju Dewendrage, Chemist

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		263849-1	263849-2	263849-3	263849-4	263849-5
Your Reference	UNITS	B1	B1	B2	B2	B2
Depth		0.15	7.3	0.15	2.1	8.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021	12/03/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	97	88	95	105	96

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		263849-6	263849-7	263849-8
Your Reference	UNITS	B3	B3	B4
Depth		0.15	8.7	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021
TRH C_6 - C_9	mg/kg	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<3	<3	<3
Surrogate aaa-Trifluorotoluene	%	115	101	105

svTRH (C10-C40) in Soil						
Our Reference		263849-1	263849-2	263849-3	263849-4	263849-5
Your Reference	UNITS	B1	B1	B2	B2	B2
Depth		0.15	7.3	0.15	2.1	8.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021	12/03/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	96	82	73	89	83

svTRH (C10-C40) in Soil				
Our Reference		263849-6	263849-7	263849-8
Your Reference	UNITS	B3	B3	B4
Depth		0.15	8.7	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	87	75	107

PAHs in Soil					
Our Reference		263849-1	263849-3	263849-6	263849-8
Your Reference	UNITS	B1	B2	B3	B4
Depth		0.15	0.15	0.15	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	102	118	118	120

Organochlorine Pesticides in soil						
Our Reference		263849-1	263849-3	263849-6	263849-8	263849-9
Your Reference	UNITS	B1	B2	B3	B4	B5
Depth		0.15	0.15	0.15	0.2	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	103	103	101	100	101

Organochlorine Pesticides in soil					
Our Reference		263849-10	263849-11	263849-12	263849-13
Your Reference	UNITS	B6	B7	B8	B9
Depth		0.2	0.2	0.2	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	103	103	102	104

Organophosphorus Pesticides in Soil						
Our Reference		263849-1	263849-3	263849-6	263849-8	263849-9
Your Reference	UNITS	B1	B2	B3	B4	B5
Depth		0.15	0.15	0.15	0.2	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	103	103	101	100	101

Organophosphorus Pesticides in Soil					
Our Reference		263849-10	263849-11	263849-12	263849-13
Your Reference	UNITS	B6	B7	B8	B9
Depth		0.2	0.2	0.2	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	103	103	102	104

PCBs in Soil					
Our Reference		263849-1	263849-3	263849-6	263849-8
Your Reference	UNITS	B1	B2	B3	B4
Depth		0.15	0.15	0.15	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	103	103	101	100

Acid Extractable metals in soil						
Our Reference		263849-1	263849-3	263849-6	263849-8	263849-9
Your Reference	UNITS	B1	B2	B3	B4	B5
Depth		0.15	0.15	0.15	0.2	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	12/03/2021	12/03/2021	12/03/2021	16/03/2021	12/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	16/03/2021	12/03/2021
Arsenic	mg/kg	5	5	4	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	8	12	5	15
Copper	mg/kg	37	32	27	14	25
Lead	mg/kg	21	21	20	9	29
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	15	10	11	5	11
Zinc	mg/kg	63	58	53	24	66

Acid Extractable metals in soil						
Our Reference		263849-10	263849-11	263849-12	263849-13	263849-14
Your Reference	UNITS	B6	B7	B8	B9	D1
Depth		0.2	0.2	0.2	0.2	.
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021	12/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021	12/03/2021
Arsenic	mg/kg	5	6	6	4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.5	<0.4
Chromium	mg/kg	11	9	11	8	8
Copper	mg/kg	27	39	35	22	21
Lead	mg/kg	23	25	25	29	35
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	15	13	7	5
Zinc	mg/kg	44	59	66	74	87

Moisture						
Our Reference		263849-1	263849-2	263849-3	263849-4	263849-5
Your Reference	UNITS	B1	B1	B2	B2	B2
Depth		0.15	7.3	0.15	2.1	8.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021	12/03/2021
Moisture	%	5.8	15	8.6	20	13

Moisture						
Our Reference		263849-6	263849-7	263849-8	263849-9	263849-10
Your Reference	UNITS	B3	B3	B4	B5	B6
Depth		0.15	8.7	0.2	0.2	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021	12/03/2021
Moisture	%	12	16	11	15	7.4

Moisture					
Our Reference		263849-11	263849-12	263849-13	263849-14
Your Reference	UNITS	B7	B8	B9	D1
Depth		0.2	0.2	0.2	.
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	11/03/2021	11/03/2021	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021	12/03/2021	12/03/2021
Moisture	%	9.8	11	6.2	4.6

Asbestos ID - soils					
Our Reference		263849-1	263849-3	263849-6	263849-8
Your Reference	UNITS	B1	B2	B3	B4
Depth		0.15	0.15	0.15	0.2
Date Sampled		09/03/2021	09/03/2021	09/03/2021	09/03/2021
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	15/03/2021	15/03/2021	15/03/2021	15/03/2021
Sample mass tested	g	Approx. 55g	Approx. 40g	Approx. 40g	Approx. 30g
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

vTRH(C6-C10)/BTEXN in Water				
Our Reference		263849-15	263849-16	263849-17
Your Reference	UNITS	MW1	MW2	B3W
Depth		.	.	.
Date Sampled		09/03/2021	09/03/2021	09/03/2021
Type of sample		Water	Water	Water
Date extracted	-	12/03/2021	12/03/2021	12/03/2021
Date analysed	-	15/03/2021	15/03/2021	15/03/2021
TRH C_6 - C_9	µg/L	<10	<10	[NA]
TRH C_6 - C_{10}	µg/L	<10	<10	[NA]
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	[NA]
Benzene	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
o-xylene	µg/L	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	101	102	102
Surrogate toluene-d8	%	99	98	100
Surrogate 4-BFB	%	98	97	101

svTRH (C10-C40) in Water			
Our Reference		263849-15	263849-16
Your Reference	UNITS	MW1	MW2
Depth		.	.
Date Sampled		09/03/2021	09/03/2021
Type of sample		Water	Water
Date extracted	-	11/03/2021	11/03/2021
Date analysed	-	12/03/2021	12/03/2021
TRH C_{10} - C_{14}	µg/L	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100
TRH >C_{10} - C_{16}	µg/L	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100
Surrogate o-Terphenyl	%	88	81

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Date analysed	-			12/03/2021	1	12/03/2021	12/03/2021		12/03/2021	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	91	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	91	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	103	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	89	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	85	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	90	[NT]
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	90	[NT]
naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	96	1	97	102	5	97	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Date analysed	-			12/03/2021	1	12/03/2021	12/03/2021		12/03/2021	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	112	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	77	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	130	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	112	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	77	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	130	[NT]
Surrogate o-Terphenyl	%		Org-020	75	1	96	94	2	99	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Date analysed	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	103	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	99	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	101	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	123	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	121	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	104	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	110	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	106	1	102	100	2	123	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Date analysed	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	70	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	121	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	116	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	121	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	82	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	72	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	105	1	103	103	0	106	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Date analysed	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	73	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	99	[NT]
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	123	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	105	1	103	103	0	106	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Date analysed	-			11/03/2021	1	11/03/2021	11/03/2021		11/03/2021	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	100	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	105	1	103	103	0	106	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			12/03/2021	1	12/03/2021	12/03/2021		12/03/2021	[NT]
Date analysed	-			12/03/2021	1	12/03/2021	12/03/2021		12/03/2021	[NT]
Arsenic	mg/kg	4	Metals-020	<4	1	5	4	22	117	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	112	[NT]
Chromium	mg/kg	1	Metals-020	<1	1	7	6	15	112	[NT]
Copper	mg/kg	1	Metals-020	<1	1	37	33	11	114	[NT]
Lead	mg/kg	1	Metals-020	<1	1	21	18	15	112	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	114	[NT]
Nickel	mg/kg	1	Metals-020	<1	1	15	13	14	116	[NT]
Zinc	mg/kg	1	Metals-020	<1	1	63	52	19	121	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			12/03/2021	[NT]	[NT]	[NT]	[NT]	12/03/2021	[NT]
Date analysed	-			15/03/2021	[NT]	[NT]	[NT]	[NT]	15/03/2021	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	96	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	96	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	95	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate toluene-d8	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-BFB	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			11/03/2021	[NT]	[NT]	[NT]	[NT]	11/03/2021	[NT]
Date analysed	-			11/03/2021	[NT]	[NT]	[NT]	[NT]	11/03/2021	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	106	[NT]
Surrogate o-Terphenyl	%		Org-020	70	[NT]	[NT]	[NT]	[NT]	77	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures.
We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples were sub-sampled from jars provided by the client.

Appendix H
Bore Logs

Canopy Enterprises Bore Log

Project: Helens-AP21 Address: Kellerman Drive, St Helens Park Date Logged : 9/3/2021 Location: Refer to Site Map Logged: JK/GH					**BOREHOLE NO.:** **B1** Sheet 1 of 2	
WATER TABLE	**SAMPLES**	**DEPTH (M)**	**DESCRIPTION** (Soil type, colour, grain size, plasticity, minor components, observations)	**USC SYMBOL**	**CONSISTENCY** (cohesive soils) or **REL DENSITY** (sands and gravels) Observations, odours signs of contamination	**MOISTURE**
	0.15		FILL: Gravelly Silty CLAY: Dark brown with dark grey, low plasticity with some shale gravel	CL		D
		1.0	FILL: Silty CLAY: Orange brown with light brown and light grey, medium to high plasticity with a trace of shale gravel	CH		D-M
		2.0				
		3.0	Silty CLAY: Orange brown with light grey, medium to high plasticity	CH		M
		4.0	Silty CLAY: Light grey with orange brown, medium to high plasticity with a trace of shale gravel	CL		D-M
		5.0	SHALE: Dark grey with clay seams			D

	Contractor: Green Geotechnics Equipment: Edson RP70 Hole Diameter (mm): 100	
d for environmental, not geotechnical purposes	Angle from Vertical (o): 0 Drill Bit: Spiral	

Canopy Enterprises Bore Log

Project: Helens-AP21	**BOREHOLE NO.: B1**
Address: Kellerman Drive, St Helens Park Date Logged : 9/3/2021	
Location: Refer to Site Map Logged: JK/GH	Sheet 2 of 2

WATER TABLE	SAMPLES	DEPTH (M)	DESCRIPTION (Soil type, colour, grain size, plasticity, minor components, observations)	USC SYMBOL	CONSISTENCY (cohesive soils) or REL DENSITY (sands and gravels) Observations, odours signs of contamination	MOISTURE
	7.3 m	7.0	SHALE: Dark grey with clay seams			D
		8.0 9.0 10.0 11.0	AUGER REFUSAL AT 7.5m ON SHALE BEDROCK			

	Contractor: Green Geotechnics Equipment: Edson RP70 Hole Diameter (mm): 100	canopy ENTERPRISES
Disclaimer: This bore log is intended for environmental, not geotechnical purposes	Angle from Vertical (o): 0 Drill Bit: Spiral	

Canopy Enterprises Bore Log

Project: Helens-AP21	**BOREHOLE NO.: B2**
Address: Kellerman Drive, St Helens Park Date Logged : 9/3/2021	
Location: Refer to Site Map Logged: JK/GH	Sheet 1 of 2

WATER TABLE	SAMPLES	DEPTH (M)	DESCRIPTION (Soil type, colour, grain size, plasticity, minor components, observations)	USC SYMBOL	CONSISTENCY (cohesive soils) or REL DENSITY (sands and gravels) Observations, odours signs of contamination	MOISTURE
	0.15 m		FILL: Gravelly Silty CLAY: Dark brown with dark grey and orange brown, low plasticity with some shale gravel	CL		D
		1.0	FILL: Silty CLAY: Dark grey with light grey, medium to high plasticity with a trace of gravel	CH		M
	2.1 m	2.0				
		3.0				
		4.0				
			Silty CLAY: Orange brown with light grey, medium to high plasticity	CH		M
		5.0				
			Silty CLAY: Light grey with orange brown, medium to high plasticity with a trace of shale gravel	CH		D-M
			SHALE: Dark grey with light grey and clay seams			D

	Contractor: Green Geotechnics Equipment: Edson RP70 Hole Diameter (mm): 100	
I for environmental, not geotechnical purposes	Angle from Vertical (o): 0 Drill Bit: Spiral	

Canopy Enterprises Bore Log

Project: Helens-AP21 Address: Kellerman Drive, St Helens Park Date Logged : 9/3/2021 Location: Refer to Site Map Logged: JK/GH						**BOREHOLE NO.:** **B2** Sheet 2 of 2	
WATER TABLE	**SAMPLES**	**DEPTH (M)**	**DESCRIPTION** (Soil type, colour, grain size, plasticity, minor components, observations)	**USC SYMBOL**	**CONSISTENCY** (cohesive soils) or **REL DENSITY** (sands and gravels) Observations, odours signs of contamination		**MOISTURE**
		7.0	SHALE: Dark grey with clay seams				D
	8.2 m	8.0 9.0 10.0 11.0	AUGER REFUSAL AT 7.5m ON SHALE BEDROCK				

	Contractor: Green Geotechnics Equipment: Edson RP70 Hole Diameter (mm): 100	
Disclaimer: This bore log is intended for environmental, not geotechnical purposes	Angle from Vertical (o): 0 Drill Bit: Spiral	

Canopy Enterprises Bore Log

Project: Helens-AP21	**BOREHOLE NO.: B3**
Address: Kellerman Drive, St Helens Park Date Logged : 9/3/2021	
Location: Refer to Site Map Logged: JK/GH	Sheet 1 of 2

WATER TABLE	SAMPLES	DEPTH (M)	DESCRIPTION (Soil type, colour, grain size, plasticity, minor components, observations)	USC SYMBOL	CONSISTENCY (cohesive soils) or REL DENSITY (sands and gravels) Observations, odours signs of contamination	MOISTURE
	0.15 m		FILL: Gravelly Silty CLAY: Dark brown with light brown and dark grey, low plasticity with some shale gravel	CL		D
		1.0				
		2.0				D-M
		3.0	Silty CLAY: Orange brown with light grey, medium to high plasticity	CH		M
		4.0	Silty CLAY: Light grey with orange brown, medium to high plasticity	CH		M
		5.0				
			SHALE: Dark brown with grey and orange brown, clay seams			D

	Contractor: Green Geotechnics Equipment: Edson RP70 Hole Diameter (mm): 100	
I for environmental, not geotechnical purposes	Angle from Vertical (o): 0 Drill Bit: Spiral	

Canopy Enterprises Bore Log

Project: Helens-AP21 Address: Kellerman Drive, St Helens Park Date Logged : 9/3/2021 Location: Refer to Site Map Logged: JK/GH						**BOREHOLE NO.:** **B3** Sheet 2 of 2	
WATER TABLE	**SAMPLES**	**DEPTH (M)**	**DESCRIPTION** (Soil type, colour, grain size, plasticity, minor components, observations)	**USC SYMBOL**	**CONSISTENCY** (cohesive soils) or **REL DENSITY** (sands and gravels) Observations, odours signs of contamination		**MOISTURE**
			SHALE: Dark brown with grey and orange brown, clay seams				D-M
		7.0					
		8.0					M-W
	8.7 m						D-M
		9.0	BOREHOLE DISCONTINUED AT 9.0m - LIMIT OF MACHINE				
		10.0					
		11.0					

	Contractor: Green Geotechnics Equipment: Edson RP70 Hole Diameter (mm): 100	
Disclaimer: This bore log is intended for environmental, not geotechnical purposes	Angle from Vertical (o): 0 Drill Bit: Spiral	