CONSULTING EARTH SCIENTISTS

STAGE I - PRELIMINARY SITE INVESTIGATION
10 NELSON SHORT STREET, POTTS HILL, NEW SOUTH WALES
CES DOCUMENT REFERENCE: CES170303-SD-AB

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PREPARED FOR MUSHAN GROUP PTY LTD

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EXECUTIVE SUMMARY

The site (10 Nelson Short Street, Potts Hill) (Lot 104 in Deposited Plan (DP) 1149790) covering an area of approximately 1.9 hectares is currently zoned as commercial/ industrial (business park) land use. The site was previously owned by Sydney Water Corporation and is situated within the former Sydney Water Potts Hill Reservoir Site.

The objective of the Stage I – Preliminary Site Investigation is to determine whether the site is likely to be suitable for the future proposed residential seniors living development, or whether further investigation is required. Soil and groundwater samples were collected during the environmental and geotechnical investigation and subjected to environmental testing for this preliminary site investigation report.

Previous environmental reports provided to CES included a Site Audit Report (SAR) and Environmental Management Plan (EMP). The Audit completed by Environ considered the review of twenty-five reports prepared between 1996 and 2010. The key sources of contaminants identified at the site were filling of unknown origin, storage activities and a former Underground Storage Tank (UST). The contaminants of concern therefore were considered as asbestos containing materials (ACM), heavy metals, TPH, BTEX, PAHs, OCPs, OPP and phenols. The main contaminants identified in the samples submitted for laboratory analysis included PAH, mainly identified in samples collected from the shallow fill of the northern portion of the Main Area but also identified in the embankment fill material (possibly due to the presence of ash, coal, slag, and bitumen/asphalt in the fill materials), TPH C10-C36 from five samples collected from the Main Area, and some heavy metals, primarily arsenic, lead and zinc. Additionally, one small fragment of cement bonded sheeting identified within a sample collected from the surface on the eastern embankment was identified as asbestos containing. It was considered by the Auditor that the remedial works and validation sampling was adequate to demonstrate the Main Area of the site suitable for commercial/industrial use. The Embankment area however was deemed not suitable for commercial/industrial use but could be maintained in a condition suitable for commercial/ industrial use with the provision of an Environmental Management Plan (EMP).

In order to meet the objectives of the investigation, CES has completed the following scope of works:

- Desktop study;
- Site inspection;
- Soil and groundwater sampling programme; and
- Preparation of this Stage I – Preliminary Site Investigation report.

No exceedance of human health criteria was identified in the analysis results for the fill samples from the fifteen borehole locations. One location exceeded the ecological criteria for

benzo(a)pyrene however this is not considered an issue as the entire footprint of the proposed development will be excavated for the construction of a basement carpark thus, removing the fill material from site. Additionally, results of fill from the top three metres were compared to NSW EPA waste classification criteria for a preliminary waste classification and were within the criteria for classification as general solid waste.

Groundwater results were below the SAC for all analytes tested with the exception of copper, nickel, and zinc. These concentrations exceeded the groundwater investigation levels (GIL) – marine waters criteria, however it is likely that these concentrations are background concentrations and unlikely to impact the receiving natural water body of Cooks River.

The total Organic Carbon (TOC) content of fill and natural soil samples below three metres indicates a "Characteristic Situation 1" in accordance with CL:AIRE *A Pragmatic Approach to Ground Gas Risk Assessment* and therefore a very low ground gas risk.

It is determined that the main site (flat area) is likely to be suitable for the proposed high rise residential seniors living development. However the area of the embankment currently subject to an environmental Management Plan (EMP) has not been investigated due to access issues. The Embankment area will require investigation and potentially remediation to address the previously identified contaminants (i.e. PAHs and asbestos) for the proposed land use.

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LIST OF ABBREVIATIONS

ACM	Asbestos Containing Material
AHD	Australian Height Datum
ASS	Acid Sulfate Soil
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
CES	Consulting Earth Scientists Pty Ltd
CLM	Contaminated Land Management
COPC	Contaminants of Potential Concern
DECCW	Department of Environment and Climate Change and Water
DLWC	Department of Land and Water Conservation
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
km	Kilometre
LGA	Local Government Area
LPI	Land and Property Information Division
LEP	Local Environmental Plan
m	Metre
mbgl	metres Below Ground Level
NEPM	National Environment Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
PSP	Project Safety Plan
TRH	Total Recoverable Hydrocarbons
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

1 INTRODUCTION

1.1 *BACKGROUND*

Consulting Earth Scientists Pty Ltd (CES) was commissioned by Mushan Group Pty Ltd (Mushan)(the Client) to carry out a Stage I – Preliminary Site Investigation of the property located at 10 Nelson Short Street, Potts Hill, New South Wales (NSW) (the site) (**Figure 1**).

This report has been prepared in accordance with the CES proposal dated 28 March 2017 and email correspondence dated 7 June 2017. It has also been prepared in general accordance with the requirements specified for a Stage I – Preliminary Site Investigation as published by the NSW Environment Protection Authority (EPA) *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA), 2011 and the National Environmental Protection Measure (NEPM) *Guidelines on Site Characterisation* (Schedule B2) 1999, as amended 2013.

CES understands previous investigations by consultants have been undertaken at the site to determine the sites suitability for a commercial/industrial land use.

CES understands that the proposed development consists of a high density residential development designed for seniors living. The development includes the construction of four-storey apartment blocks above a single level underground car park.

The findings of this report are based on a site inspection conducted on 13 July 2017 and soil and groundwater sampling and analysis conducted on the 13, 14, 17, 18, and 27 July 2017.

1.2 *OBJECTIVES*

The objective of the Stage I – Preliminary Site Investigation is to assess whether the site is likely to be suitable for the proposed high density residential development designed for seniors living, or whether further investigation or remediation is required.

1.3 *SCOPE OF WORK*

CES has completed the following scope of works:

1. Desktop Study

   a. Review of previous investigation, remediation and validation reports, Site Audit Statement (SAS) and Site Audit Report (May 2010), and other information related to the investigation and remediation of the site;
   b. Research of publicly available documentation to assess the history of the site, the identification of potential sources of contamination and the review of sensitive human and environmental receptors on or in the vicinity of the site;
2. Site Inspection
   a. A site inspection to visually identify potential sources of contamination and validate anecdotal and historical information from the desktop study;
3. Soil Sampling Programme
   a. An intrusive soil sampling programme to address data gaps identified during the review of previous environmental investigations; and
   b. Evaluation of soil sampling and analysis data obtained from the environmental and geotechnical investigation;
4. Groundwater Sampling Programme
   a. A groundwater sampling programme from wells installed during the intrusive environmental and geotechnical investigation works
   b. Evaluation of groundwater sampling data obtained from the environmental investigation;
5. Preparation of this Stage I – Preliminary Site Investigation report.

2 SITE INFORMATION

The site information presented below is based on a review of government and publicly available information sources.

2.1 *SITE IDENTIFICATION*

The site is located at 10 Nelson Short Street, Potts Hill, New South Wales (NSW) 2143, within the Local Government Area (LGA) of Canterbury-Bankstown. The site covers an area of approximately 1.9 hectares, and is legally identified as a single lot, Lot 104 in Deposited Plan (DP) 1149790 (**Figure 1**). The geographical extent of the site is presented in Table 2.1 below.

Table 2.1: Geographical extent of site

Corner/point of site	Eastings	Northings
Southeast corner of site	318312.909mE	6247341.275mN
Northeast corner of site	318238.208mE	6247538.055mN
Southwest corner of site	318169.819mE	6247364.917mN
Northwest corner of site	318337.351mE	6247524.576mN
Centre of site	318272.834mE	6247433.492mN

2.2 *SITE ZONING*

Bankstown Local Environmental Plan (LEP) 2015 indicates that the site is currently zoned "B7 – Business Park".

2.3 *SITE DESCRIPTION*

The subject site is located within a mixed public recreation and residential district of Potts Hill. The site is accessed via Nelson Short Street and is largely trapezoidal in shape. At the time of the site inspection, the property included:

- Two conjoined areas of vegetated open space. No buildings were observed on site at the time of the site inspection.

During the site inspection there were signs of dry and browned vegetation, however the vegetation was not considered distressed (an indication of potential environmental impacts) and in the accessible areas observed, there was no surface staining indicative of surface spills that could have impacted underlying soil and groundwater.

There was no evidence of above ground or below ground fuel storage tanks on the site.

A photographic log is presented in **Appendix A**.

Based on observations from the site inspection, the surrounding land use comprised the following:

- **North** – immediately bordering the northern boundary of the site is the Potts Hill NSW Police Facility located within the Potts Hill Business Park, further north of which lies residential areas including the Carnarvon Golf Club (1.3km North-northeast), Sydney University (Cumberland Campus) (2km northeast) and Rookwood Cemetery (2.5km northeast);
- **East** – Graf Avenue borders the eastern boundary of the site, beyond which are low density single and double storey residential properties of Yagoona. Beyond this lies an industrial area of Chullora, the Hume Highway separates the industrial area from the residential area of Greenacre;
- **South** – Brunker Road immediately borders the southern boundary of the site, beyond which are low density single and double storey residential properties of Yagoona stretching far south; and
- **West** –Immediately bordered by Nelson Short Street and further west is the Sydney Water reservoir site. Further west lies residential areas of Birrong and Sefton.

2.4 *TOPOGRAPHY*

The site was observed during the site inspection to have no preferential slope, however steep fill embankments were observed along the eastern and southern boundaries of the site.

2.5 *SURFACE WATER*

The nearest surface water features are the Cooks River, located approximately 262 m northeast of the site boundary. The likely discharge point for groundwater / surface water run-off, based on local topography is the Cooks River.

2.6 *GEOLOGY*

Reference to the Sydney 1:100 000 Geological Series Sheet 9130 (1983) indicates that the majority of the site is underlain by Bringelly Shale of the Wianamatta Group, of Triassic Age. This formation typically comprises shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff.

2.7 *SOILS*

Reference to the Sydney 1:100 000 Soil Landscape Series Sheet 9130 indicates that the site is underlain by disturbed terrain. Disturbed terrain indicates the soils at the site are likely to be highly modified from their natural condition.

2.8 *HYDROGEOLOGY*

It is expected that groundwater would flow away from the Reservoirs 1 and 2 to the southeast, towards the Cooks River.

A search of the Department of Primary Industries Office of Water database (http://allwaterdata.water.nsw.gov.au/water.stm, accessed 27 July 2016) indicates there are nine registered groundwater abstraction wells located between 941 and 972 m from the site boundary. All nine wells are used for monitoring and extend between 3.7 and 13 m below ground level. The groundwater standing water levels recorded is range of between 1.80 and 9.10 m below the ground surface. Further details are provided within the Lot Search report in **Appendix B**.

2.9 *SENSITIVE LOCAL ENVIRONMENTS*

The site is not located within an Underground Petroleum Storage System (UPSS) environmentally sensitive zone. UPSS environmentally sensitive zones represent areas that are likely to be vulnerable to the contamination from leaking UPSS due to geology or groundwater properties.

2.10 *ACID SULFATE SOILS*

The classification of acid sulphate soils (ASS) is based on the likelihood that these soils will be present in particular areas at specific depths. Soils are classed from 1 (high probability presence) to 5 (low probability presence).

There is no acid sulfate soil risk mapped for the site in the Bankstown LEP (2015) Acid sulfate soils map (sheet: ASS-004)

2.11 *METEOROLOGY*

Information on meteorology recorded from the Bankstown Airport AWS has been obtained from the Bureau of Meteorology website (http://www.bom.gov.au/ accessed 27 July 2017).

- Mean annual temperature – 23.3 degrees Celsius;
- Mean annual lowest temperature – 12.0 degrees Celsius; and
- Mean annual rainfall – 996.7 millimetres (mm).

2.12 *NSW CONTAMINATED SITE REGISTER*

The site is located within proximity to six sites listed under the NSW EPA Contaminated Lands List:

- Shell Coles Express Service Station located 165m east;
- Galserv Galvanising Services located 259m northeast;
- Former Plating Works located 336m southeast;
- Sydney Water Potts Hill Complex located 336 west;
- BP Potts Hill Service Station and Truckstop located 470m northeast; and
- 7-Eleven (former Mobil) Service Station located 930m southeast.

2.13 *PREVIOUS ENVIRONMENTAL REPORTS*

CES has been provided reports of investigations and remediation works previously undertaken by consultants. A summary of information pertaining to the site from each of the reports has been provided below.

Environ, May 2010, Site Audit Report, Proposed Lot 104, Potts Hill

The Audit completed by Environ was conducted to provide an independent review by an EPA NSW Accredited Auditor to determine the suitability of the site for commercial/industrial land use. The Site Audit Report (SAR) considered the review of twenty-five reports prepared between 1996 and 2010.

Key observations during the various investigations undertaken between 2003 and 2009 at the site prior to demolition and remediation of the site included a former underground storage tank (UST) present in the southwest portion of the site. The south and south-eastern yard areas were surfaced by asphalt in poor condition and were used for the storage of shipping containers and drums with no evidence of bulk chemical storage noted in the area, Coffey noted a small above ground fuel storage area in the northwest corner of the site and some rusted drums on the middle of the eastern boundary of the Main Area (developable land), directly south of an equipment wash down area. AECOM also noted observations of potential building waste materials such as concrete, bitumen, ballast gravels, and terracotta pipe in the accessible areas of the southern embankment. The eastern embankment was inaccessible at the time of inspection however it was noted that steel and concrete wastes were commonly encountered during test pitting.

A history of the site indicated distribution of excavated reservoir spoil across the Potts Hill reservoir area which could have potentially contained ash waste, fly ash and waste associated with the removal of bitumen-based pipe linings. Significant placement of the spoil is believed to have occurred at the site creating the steep embankments in the south and east. The 45,000 L petrol UST identified in the southwest portion of the site was decommissioned in 1996 by Fluor Daniel GTI (GTI). It was reported at the time of decommissioning that the UST was in "very good condition" with no significant corrosion or visible leaks, however petrol contamination was noted. The remaining pit was backfilled with sand originally surrounding the UST and topped with imported fill.

The key sources of contaminants identified at the site were filling of fill of unknown origin, storage activities and the former UST. The contaminants of concern therefore were considered as asbestos containing materials (ACM), heavy metals, TPH, BTEX, PAHs, OCPs, OPP and phenols. The main contaminants identified in the samples submitted for laboratory analysis included PAH, mainly identified in samples collected from the shallow

fill of the northern portion of the Main Area but also identified in the embankment fill material (possibly due to the presence of ash, coal, slag, bitumen/asphalt in the fill materials), TPH C10-C36 from five samples collected from the Main Area, and some heavy metals, primarily arsenic, lead and zinc. Additionally, one small fragment of cement bonded sheeting identified within a sample collected from the surface on the eastern embankment was identified as asbestos containing. No specific contaminant concentration information or sample location information (for both investigation works and validation works) is contained within the SAR.

Remediation works undertaken at the site in response to the results of the environmental investigations undertaken included the re-excavation and validation of the UST pit area by AECOM, the excavation and offsite disposal of the PAH impacted fill from five locations, the screening and removal of the top one metre of surface material (identified by Coffey as Unit 1A) from a portion of the Main Area with the screened soil validated for re-use to backfill remediation excavations at the site and adjoining sites, and the excavation, screening and re-emplacement of soils for the stabilisation of the Embankment.

It was considered by the Auditor that the remedial works and validation sampling was adequate to demonstrate the Main Area of the site suitable for commercial/industrial use. The Embankment area however was deemed not suitable for commercial/industrial use but could be maintained in a condition suitable for commercial/ industrial use with the provision of an Environmental Management Plan (EMP).

AECOM, May 2010, Environ: Site Audit Report, Proposed Lot 104, Potts Hill, Appendix E: Environmental Management Plan

AECOM Australia prepared an Environmental Management Plan (EMP) to address and manage the PAH contamination risks of the contaminated fill materials identified within the Environmental Site Assessments (ESAs) undertaken by URS Corporation (URS) and Coffey Environmental (Coffey) and the Supplementary Contamination Assessment (SCA) completed by AECOM, following the development of the site for commercial/industrial land use.

The EMP applies to construction (applicable upon initiation of the construction works) and operational phase (after development has completed) of the Management Area. The EMP is applicable to, but not limited to, the excavations of the Management Area, stockpiling, storage, movement and handling of excavated materials, on-site reuse or off-site disposal of excavated materials, general disturbance of the Maintenance Area, importation and use of fill materials, and routine inspections of the Management Area.

The EMP outlines the Occupational Health and Safety (OH&S) considerations and requirements for works of the Maintenance Area including an overview of site induction requirements, prevention of potential hazards and personal protective equipment. Additionally, the EMP outlines site management procedures including the consideration of water management, soil management, odour and dust control, excavation reinstatement, disposal of excavated materials, and importation of fill materials. Furthermore, the EMP details the requirement for inspection and monitoring of the Management Area. No reports detailing the implementation of the EMP have been provided to CES.

3 SITE HISTORY

Information pertaining to the history of the site was obtained through a review of information available from external sources including historical title searches, aerial photographs and council records and the WorkCover NSW Dangerous Goods search presented in **Appendices B** and **C**.

3.1 *PROPERTY TITLE INFORMATION*

A title deeds search was conducted by Lot Search. A summary of the results is provided in **Table 3.1**. Where available, the original title and lease documents are provided in **Appendix D**.

Table 3.1: Summary of Proprietors

Date	Proprietor
2016 – to date	Potts Hill Group Pty Limited
2010 – 2016	Sydney Water Corporation
2010 – 2010	Sydney Water Corporation
2005 – 2010	Sydney Water Corporation
1988 – 2005	Sydney Water Board
(1988 – 2010)	*(various leases shown on Historical Folio 2/225818)*
1981 – 1988	Metropolitan Water Sewerage and Drainage Board
(1981 – 1988)	*(various leases shown on CTVol 14333 Fol 208)*
1979 – 1981	Metropolitan Water Sewerage and Drainage Board
(1979 – 1981)	*(various leases shown on CTVol 13796 Fol 38)*
1978 – 1979	Metropolitan Water Sewerage and Drainage Board
(1978 – 1979)	*(various leases shown on CTVol 13710 Fol 248)*
1969 – 1978	Metropolitan Water Sewerage and Drainage Board
1911 – 1969	Metropolitan Water Sewerage and Drainage Board

A review of the past owner of the site, Sydney Water Corporation (SWC) indicates the site would have been highly utilised for works and operations of the reservoirs. It is likely that activities relating to the construction, ongoing use and maintenance of the reservoirs would have occurred at the site between the dates of 1911 and 2016. This is supported by the review of previous

environmental reports in section 2.13 outlining the contaminating sources that may be associated with such works and operations as identified previously by consultants.

3.2 *HISTORICAL AERIAL PHOTOGRAPH INTERPRETATION*

Aerial photography viewed on Nearmap in addition to photographs taken from 1943 to 2015 obtained from Lot Search were reviewed to assess the history of development of the site and indications of potential sources of contamination. **Table 3.2** presents a summary of the review. The photographs are included in **Appendix B**.

Table 3.2: Aerial Photograph Interpretation

Year	Description
1943	**Site:** The site consists of open space with coverage of trees along the southern boundary and the northern half of the site. Tracks are visible across the centre of the site. **Surrounds:** The area surrounding the site is occupied by the Sydney Water reservoir to the west and open space with a number of properties located to the south of Brunker Road and west of Rookwood Road occupying the area to the south of the site. Residential properties also appear to occupy the area above Brunker Road directly to the east of the site. The surrounding area to the north of the site appears to be utilised as a storage yard.
1955	**Site:** The trees within the centre of the site appear to have been cleared and the central area of the site appears to be used as a storage yard for construction materials. The remaining area of the site along the southern boundary appears to remain unchanged. **Surrounds:** The area occupied by the storage yard appears to have extended to the boundary of the site. The residential areas to the east and south also appears to have expanded since the previous aerial photograph. The remaining surrounding area to the west remains unchanged.
1961	**Site:** The site appears largely unchanged with the exception of the construction of a large building (warehouse/shed) in the centre of the site. **Surrounds:** Residential development appears to have increased within the areas to the south and east of the site since the previous aerial photograph was taken. Increased storage activities are apparent the surrounding area to the north of the site.
1965	**Site:** The site appears largely unchanged with the exception of the construction of a small shed adjacent to the large shed. **Surrounds:** The surrounding areas of the site appear to be largely unchanged with the exception of an increase in residential development to the area to the south of the site.
1970	**Site:** The site appears largely unchanged. **Surrounds:** The surrounding area appears to be largely unchanged with the exception of the construction of a large building to the north-east of the site.
1982	**Site:** The site appears largely unchanged. **Surrounds:** The surrounding area appears to be largely unchanged with the exception of further development to the large building located northeast of the site and construction of a sporting pitch / greyhound racing track to the north-east of the site.
1991	**Site:** The area of the site utilised as storage of construction materials now appears to be used for car parking. **Surrounds:** The surrounding area to the north of the site now appears to be used for car parking in addition to storage of construction materials.

Year	Description
2003	**Site:** The site appears largely unchanged, with the exception of additional buildings being constructed in the north-western corner of the site. **Surrounds:** The surrounding area to the west of the site occupied by the Sydney Water reservoir appears to have a cover installed since the previous aerial photograph was taken. The area to the north of the site (previously occupied by construction materials) has been cleared. The United Service Station also appears to have been constructed off Rookwood Road to the southeast of the site. The remaining surrounding areas appear to be unchanged since the previous aerial photograph was taken.
2009	**Site:** The site appears largely unchanged, with the exception of the removal of a number of small buildings from the site. **Surrounds:** The surrounding area appears largely unchanged.
2010	**Site:** Remediation and earth moving works are apparent across the majority of the site. **Surrounds:** The surrounding area to the north of the site appears to also be undergoing earth works in preparation of the construction of the Potts Hill NSW Police Facility. The remaining surrounding areas appear largely unchanged.
2014	**Site:** The site appears to be open space and used as a storage yard. **Surrounds:** The surrounding area appears largely unchanged, with the exception of the open space to the north of the site now occupied by the NSW Police Facility.
2015	**Site:** The site appears to be open space. **Surrounds:** The surrounding area appears largely unchanged.

A review of the historical aerial photographs obtained from Lot Search revealed that the site has been in use as a storage yard for the associated works of the Sydney Water reservoir for the majority of the time between 1943 and 2014. The review of the historical aerial photographs also indicates that the surrounding areas of the site did not undergo any significant changes other than that of gradual residential development.

3.3 *SAFEWORK NSW RECORDS*

A search of SafeWork NSW Stored Chemical Information Database and microfiche records has been undertaken. Records pertaining to the site have not been located.

3.4 *SECTION 149 PLANNING CERTIFICATES*

Review of Planning Certificates under Section 149 of the Environmental Planning and Assessment Act (1979) indicates the following for the subject site:

- The land has not been proclaimed as within a Mine Subsidence District;
- The land is not biodiversity certified land;
- The land does not include or comprise critical habitat;
- The land is not in a conservation area;
- The land has not been identified as bush fire prone land; and
- Development on the land is not subject to flood related development controls.

The following matters are prescribed under section 59 (2) of the Contaminated Land Management Act (1997):

- The land is not significantly contaminated;
- The land is not subject to a management order;
- The land is not subject of an approved voluntary management proposal;
- The land is not subject to an on-going maintenance order; and
- The land is not subject to an audit statement.

A copy of the Section 149 certificates is provided in **Appendix E**.

3.5 *SEWER AND SERVICE PLANS*

A review of Dial-Before-You-Dig (DBYD) plans indicate the presence of 225mm PVC sewer mains along the entire southern and eastern boundary of the property, including three maintenance holes located in the south-eastern corner of the site and two maintenance shafts, each located along the mid-southern boundary and upper third of the eastern boundary of the site which may serve as a preferential pathway of contaminant migration on the site.

In addition, the site inspection conducted on the 13 July 2017 found evidence of large concrete pits in the north-eastern and south-eastern corners of the site (see refer to **Appendix A**, Plate 11 and Plate 15 for photographs). It is assumed that these pits are connected by concentrate conduits running north to south. It is unclear the purpose of these conduits and the extent of the pipeline, however it is a possibility that these conduits are for stormwater collection.

A copy of the Dial Before You Dig plans are included in **Appendix F.**

3.6 *SITE WALKOVER*

CES carried out a site walkover on 13 July 2017. Photographs taken during the site walkover are presented in **Appendix A**. The following were identified:

- No buildings were observed on-site.
- No evidence of below or above ground fuel storage tanks were observed (e.g. manhole covers, vent stacks, fill points or bowsers);
- No significant odours were detected;
- No evidence of chemical storage was observed;
- Vegetation across the site appeared dry and brown in some areas, however, it did not appear stressed; and
- Two large (2m by 2m) concrete pits covered by metal grates were identified in the north-eastern and south-eastern corners of the main investigation area. It is expected that these concrete pits are connected by means of concrete cased conduits.

4 PRELIMINARY CONCEPTUAL SITE MODEL

A Preliminary Conceptual Site Model (CSM) was developed in consideration of the historical information and current site conditions. The CSM takes into account the possible future high density residential redevelopment.

4.1 *POTENTIAL SOURCES OF CONTAMINATION*

Commercial Activities

The historical review and site inspection suggests the site has been occupied by Sydney Water for commercial activities including storage yard facilities. The use of petroleum products such as fuels, oils, and hydraulic oils, in addition to chemicals associated with pesticides, may be associated with this use. Contaminants of potential concern (COPC) include:

- Petroleum hydrocarbons (TRH/BTEX);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Volatile Organic Hydrocarbons (VOCs);
- Organochlorine Pesticides (OCPs) ;and
- Heavy Metals.

Uncontrolled Fill

The site slopes steeply to the east and south and it is assumed some cut and fill activities would have occurred during the development of the reservoir site. The origin of the fill is unknown, however it is possible that the fill origin could be excavations for the nearby reservoir and the potential exists for this material to be contaminated. COPC typically encountered in uncontrolled fill include:

- TRH and BTEX;
- PAHs;
- Heavy Metals;
- Organochlorine Pesticides (OCPs);
- Polychlorinated biphenyls (PCBs) and
- Asbestos.

It is likely that environmental investigations and remediation activities previously undertaken at the site have removed the potential contaminants associated with the above sources. However, contaminant concentrations identified in the previous investigations may exceed the Site Assessment Criteria (SAC) for the proposed land use.

4.2 *POTENTIAL OFF-SITE SOURCES OF CONTAMINATION*

There have been no potential off-site sources of contamination identified within the surrounds of the site.

4.3 *POTENTIAL PATHWAYS*

The pathways through which contaminants may reach receptors are in part dependent on the nature and behaviour of the contaminant. The following potential pathways have been identified:

- Ingestion / dermal contact during construction;
- Inhalation of contaminants in the particulate form (dust);
- Leaching of contaminants from site soils into groundwater; and
- Lateral migration of contaminants in groundwater (dissolved and immiscible phases) to surface waters.

4.4 *RECEPTORS*

Potential sensitive receptors (on and off-site) are listed below:

- Future construction workers during the construction of the proposed redevelopment;
- Future residents and employees;
- Groundwater beneath the site;
- Neighbouring residents and
- Cooks River (250 m NE of the site).

5 SAMPLING AND ANALYTICAL PROGRAMME

The following sampling programme has been carried out based on the CES Fee Proposal (CES Document Reference: CES170303-SD-AA) dated 7 July 2017, knowledge of the outcomes of previous ESA's, potential contamination issues resulting from past activities undertaken at the site and takes into consideration the objectives of the environmental investigation. The sampling and analysis programme is preliminary only to assesses the contamination status of fill and natural soils, and groundwater.

5.1 *SAMPLING PATTERN*

To determine the degree of potential contamination across the site, CES carried out a systematic sampling pattern where sampling points were selected at regular and even intervals, within the constraints of the site.

The location of the boreholes is presented in Figure 2.

5.2 *GROUNDWATER MONITORING*

Two groundwater monitoring wells were installed in boreholes BH02 and BH03. BH02 and BH03 were installed to depths of 12 (screened 2 m) and 10 metres (screened 3 m) below ground level (mbgl) respectively. Both installations were completed with a gravel pack from the depth of the well to 0.7 m above top of screen and finalised with bentonite and gatic covers.

It was proposed to install an additional groundwater monitoring well in borehole BH01 in order to delineate groundwater flow across the site, however groundwater was not identified during the drilling activities. The installation and sampling of the two groundwater wells, BH02 and BH03, are deemed sufficient to characterise the groundwater at the site for the purposes of this investigation.

Groundwater fieldwork was undertaken in accordance with documented CES procedures by experienced staff. Well development was carried out by surging and pumping manually with a dedicated bailer. Following development of the wells, the wells were allowed to recover for approximately one week before purging and sampling.

The purging process was undertaken by the low-flow method using a decontaminated bladder pump with drawdown control to limit drawdown to less than 0.05 m. This was done using a low flow pump with inlet tubing (Teflon free) set at the midpoint of the response zone (slotted pipe). A calibrated (and decontaminated) water quality meter was used during the purging process to assess chemical equilibrium by measuring pH, redox potential (Eh), electrical conductivity, dissolved oxygen and temperature. The parameters were considered stable and at equilibrium when two consecutive readings were within ±10 %. Stabilisation of the water quality parameters

was considered to represent formation specific (at the point of sampling) water being drawn into the parameter measurement cup. As such, the field parameter stabilisation was used to assess when water that is representative of the formation is to be sampled. Sampling commenced after the parameters stabilised.

5.3 *SAMPLING DENSITY*

A total of fifteen assessment locations were identified for the Preliminary Site Investigation.

In accordance with Table A of NSW EPA Sampling Design Guidelines (1995) to identify a soil contamination hotspot with a diameter of between 28.9 and 30.5 m with 95% confidence on a site area of 1.9 ha the minimum sample points required would be 28 locations. As this investigation was designed as a preliminary assessment, only 15 sample locations were assessed.

5.4 *DEPTH INTERVALS OF SAMPLING*

Soil samples were collected from the fill and natural soils. Details on sample locations and depths are presented in Table 1.

5.5 *METHOD OF SAMPLING COLLECTION*

Care was taken to ensure that representative samples are obtained from the depth required and that the integrity is maintained by utilising push tube drilling techniques during the intrusive investigation.

All soil samples were collected directly from the push tube sleeve using new nitrile gloves. Care was taken when collecting samples to ensure the most representative sample of the targeted material was sampled.

5.6 *DECONTAMINATION PROCEDURES*

No decontamination of sampling equipment was required as soil samples were collected directly from new dedicated push tube sleeves using dedicated new nitrile gloves. Soil samples were transferred directly from sleeves to laboratory prepared sample jars. Groundwater samples were collected using a bladder pump. Dedicated bladders and tubing were used at each sample location.

5.6.1 *Sample Containers*

The soil samples were collected in laboratory prepared glass jars with Teflon lined lids. The jars were completely filled with soil, sealed, labelled with the job number, date, unique sampling

point identification and depth. Details of sample containers, preservation requirements and holding times for soil and groundwater samples are presented as Table 3a and 3b respectively.

Groundwater samples were collected in laboratory supplied containers. The containers were supplied by the laboratory with the appropriate sample preservatives for the proposed analysis.

5.7 *METHOD OF SAMPLE STORAGE AND HANDLING*

The sample containers were immediately placed in a cool box in which ice had been added to keep the samples below a temperature of approximately 4ºC. Samples were then transported directly to the laboratory.

5.8 *DOCUMENTATION*

While on site, the supervising engineer/scientist filled out a copy of CES "sample register", which documents:

- Time of sample collection;
- Weather;
- Unique sample identification number; and
- Sample location and depth.

All samples were classified in the field based on soil/fill characteristics and obvious signs of contamination such as discolouration or odour were noted on a log.

All samples, including QA samples, were transported to the primary and check laboratories under Chain-of Custody (COC) procedures and maintained in an ice-filled cooler. The COC details the following information:

- Site identification;
- The sampler's name;
- Nature of the sample;
- Collection time and date;
- Analyses to be performed;
- Sample preservation method;
- Departure time from site; and
- Dispatch courier(s)

During excavation, a borehole log was completed by a qualified geotechnical engineer / environmental scientist. The log recorded the following data:

- Sample number and depth;
- Soil classification, colour, consistency or density, and moisture content;

- Unusual characteristics such as odour and staining;
- Photoionization Detector (PID) screening results;
- Depth of excavation;
- Push tube rig refusal;
- Groundwater well installation details (where relevant);
- Method of excavation; and
- The depth of first encountered free water.

Borehole logs are presented as **Appendix G**.

5.9 *ANALYTICAL PROGRAMME*

5.10 *NUMBER OF SAMPLES FOR ANALYSIS*

5.10.1 *Soil*

A total of twenty four (24) environmental soil samples for were scheduled for analysis. The analytical programme is summarised below:

- Fifteen (15) soil samples for TRH, BTEX, Heavy Metals, PAH, OCPs, PCBs and Asbestos;
- Eight (8) soil samples for TRH, BTEX and Total Organic Carbon (TOC);
- Quality control one blind replicate and one split replicate samples analysed for TRH, BTEX, Heavy Metals, PAH, OCPs, PCBs and Asbestos; and
- Quality control one blind replicate and one split replicate samples analysed for TRH, BTEX, and Total Organic Carbon (TOC).

5.10.2 *Groundwater*

A total of two (2) environmental groundwater samples were scheduled for analysis. The analytical programme is summarised below:

- Two (2) groundwater samples for TRH, BTEX, PAHs, OCPs, OPPs, PCBs, and Heavy Metals; and
- Quality control one blind replicate and one split replicate samples analysed for TRH, BTEX, PAHs, OCPs, OPPs, PCBs, and Heavy Metals.

5.11 *LABORATORY*

CES used Envirolab Services Pty Ltd (Envirolab) as the primary lab and Australian Laboratory Services Pty Ltd (ALS) as the secondary or 'check' laboratory for all chemical testing. Both laboratories are NATA registered for the chemical testing.

5.12 *ANALYTICAL METHODS*

The soil/fill was analysed in accordance with NEPC 1999 (2013) Guideline on Laboratory Analysis of Potentially Contaminated Soils using US EPA and APHA approved analytical methods and will provide analytical results consistent with the amended NEPM. That is to say the results for TRH will be presented as the four fraction bands (F1-F4) and speciated PAHs, including Benzo(a)pyrene toxicity equivalent quotient (TEQ). Asbestos was analysed in accordance with Australian Standard 4964-2004.

A list of soil and groundwater analytical parameters, laboratory Practical Quantitation Limits (PQLs) and laboratory methods are presented as **Table 4 and Table 5** respectively.

6 SITE ASSESSMENT CRITERIA

The selection of the most appropriate investigation levels for use with a site specific environmental setting and land use scenario should consider factors including the protection of human health and ecosystems.

Investigation and screening levels are provided in *Guideline on Investigation Levels for Soil and Groundwater* (Schedule B1, NEPC, 2013) for commonly encountered contaminants which are applicable to generic land use scenarios and include consideration of, where possible, the soil type and the depth of contamination. Investigation levels and screening levels are the concentrations of a contaminant above which further appropriate investigation and evaluation will be required. Investigation and screening levels provide the basis of Tier 1 risk assessment.

6.1 *INVESTIGATION AND SCREENING LEVELS*

Health investigation levels (HILs) have been developed for a broad range of metals and organic substances. The HILs are applicable for assessing human health risk via all relevant pathways of exposure. The HILs are generic to all soil types and apply generally up to a depth of 3 m below the surface for residential use.

Health screening levels (HSLs) have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. They apply to different soil types, and depths below surface to >4 m.

Ecological investigation levels (EILs) have been developed for selected metals and organic substances and are applicable for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2 m of soil.

Ecological screening levels (ESLs) have been developed for selected petroleum hydrocarbon compounds and total petroleum hydrocarbon (TPH) fractions and are applicable for assessing risk to terrestrial ecosystems. ESLs broadly apply to coarse- and fine-grained soils and various land uses. They are generally applicable to the top 2 m of soil.

Groundwater investigation levels (GILs) have been developed to assess human health risk and ecological risk from direct contact (including consumption) with groundwater and are based on Australian water quality guidelines and drinking water guidelines.

6.2 *SOIL*

6.2.1 *Human Health Assessment*

To address potential health impacts at the site, CES compared the analytical testing results against a set of health based soil investigation criteria appropriate for the proposed land-use. That is, the HIL has been set at a level that provides confidence that contaminant concentrations below the HIL will not adversely affect human health. As described in Section 1.1, the future site land-use is proposed high density residential seniors living development; however, as CES is not in possession of development plans and as such cannot confirm the development to take place at the site, the NEPM (2013) HIL B (residential with minimal opportunities for soil access includes dwellings with fully permanently paved yard space such as high rise buildings and flats) criteria has been adopted as a conservative approach for the assessment of human health. Additionally, NEPM (2013) HSL A & HSL B (low-high density residential for clay) criteria has been selected for the assessment of human health.

6.2.2 *Ecological Assessment*

NEPC (1999) indicates that while protection of human health often drives the first stages of assessment, protection of the environment (terrestrial and aquatic) should be a consideration for all site assessments. The closest waterbody, Georges River, is approximately 1.5 km east of the site and may be considered a sensitive ecological receptor.

To address the potential ecological impacts at the site, CES compared the analytical testing results against a set of ecological investigation and screening levels appropriate for the proposed land use of mixed use and aged care development. The NEPM (2013) EIL criteria adopted were generated using the CSIRO for *NEPM Ecological Investigation Level Calculation Spreadshee*t (CSIRO, 2010). Conservative values for pH (7.0 pH), cation exchange capacity (CEC) (20 cmolc/kg), organic content (1%) and clay content (>10%) were used in the absence of available data. Additionally, the NEPM (2013) ESL (fine soil texture) was adopted for the ecological assessment.

6.2.3 *Asbestos*

Health screening levels for asbestos in soils, which are based on scenario-specific likely exposure levels, are adopted from the Western Australia, Department of Health (WA DoH) guidelines as outlined in Table 7 of Schedule B1, NEPC, 2013. Based on the proposed seniors living development, the Residential B exposure setting has been selected. As such, the HSL for bonded asbestos containing materials (ACM) is 0.04% w/w and 0.001% w/w for asbestos fines and fibrous asbestos.

6.2.4 *Ground Gas Risk*

Total Organic Carbon (TOC) provides an assessment of the proportion of organic materials present in the soil and thus provides an indication of the amount of methane and carbon dioxide potentially produced by the decomposition of the materials. The data can be used to determine the gas

generation risk against screening values such as those included in Table 1 of CL:AIRE Research Bulletin: *A Pragmatic Approach to Ground Gas Risk Assessment* (CLAIRE, 2012).

6.3 *GROUNDWATER*

To address the data gap of groundwater characterisation at the site, CES compared results of samples of groundwater to the NEPM (2013) GIL criteria for Marine Waters and Fresh Waters.

7 QAQC DATA EVALUATION

Field and laboratory QA/QC requirements compliant with National Environmental Protection Council (1999 updated 2013) requirements are outlined below. Laboratory certificates of analysis are attached as **Appendix H**.

7.1 *DATA ACCEPTANCE CRITERIA*

The QA/QC Data was assessed against the Data Acceptance Criteria (DAC) provided in **Table 7**.

7.2 *FIELD QA/QC PROGRAMME*

Soil samples were collected by Mr Ivan Wong of CES, an experienced Geotechnical Engineer, and Ms Erin Millar of CES, an experienced Environmental Scientist, under established CES protocols. CES personnel have been trained in sample collection and handling techniques.

For the purpose of assessing the quality of data presented in this report, CES collected and analysed Quality Control (QC) samples, while the laboratory completed their own QC. Tabulated QC data for soil and groundwater are provided in Table 8a and Table 8b respectively. The current section of this report is focused on the presentation of results of these QC samples and discussion of deviations from the Data Acceptance Criteria (DAC) (**Table 7**).

7.3 *BLIND SAMPLES*

Two blind replicate soil samples were collected from BH05 (Q1) and BH15 (Q3). The replicate samples were preserved, stored, transported, prepared and analysed in an identical manner to the primary sample. As a minimum, the results of analyses on the blind replicate sample pair are assessed by calculating the Relative Percentage 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.

The RPD were all within the DAC listed in **Table 7.**

Additionally, one blind replicate groundwater sample was collected from BH02 (QAQC). The replicate sample was preserved, stored, transported, prepared and analysed in an identical manner to the primary sample. As a minimum, the results of analyses on the blind replicate sample pair

are assessed by calculating the Relative Percentage 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.

The RPD were all within the DAC listed in **Table 7.**

In summary, it is considered that the blind replicate samples confirm that the primary laboratory (Envirolab) analyses of the soil and groundwater samples are repeatable and accurate.

7.4 *SPLIT SAMPLES*

Two split samples were collected from BH05 (Q2) and BH15 (Q4), otherwise known as 'inter-laboratory duplicates', which provide a check on the analytical proficiency of the laboratories. Split samples are taken from the same location as the blind replicate, thus becoming a triplicate sample.

The results of the split sample analysis confirms the reliability of the laboratory analysis from Envirolab, since the all the RPD were compliant with the DAC. The results of the RPD analysis indicates the analytical proficiency of the laboratories.

7.5 *LABORATORY QA/QC PROGRAMME*

The reliability of test results from the analytical laboratories will be monitored according to the QA/QC procedures used by the NATA accredited laboratory. The QA/QC programme employed by Envirolab Services (Envirolab) (the primary laboratory) will specify holding times, extraction dates, method descriptions, Chain of Custody (COC) requirements, analysis, EQLs and acceptance criteria for the results. Laboratory QA/QC requirements undertaken by Australian Laboratory Services (ALS) are based on NEPM requirements and are outlined below (NEPC, 1999).

7.6 *LABORATORY DUPLICATE SAMPLES*

Laboratory duplicates provide data on analytical precision for each batch of samples. Where required and in order to provide sufficient sample for analysis of laboratory duplicates, two batches of samples are collected at the first site listed on the Chain of Custody form. This is done in order to ensure that sufficient sample is collected.

All laboratory duplicate samples' RPDs conformed to the DAC.

7.7 *LABORATORY CONTROL SAMPLES*

Laboratory control samples consist of a clean matrix (de-ionised water or clean sand) spiked with a known concentration of the analyte being measured. These samples monitor method recovery in

clean samples and can also be used to evaluate matrix interference by comparison with matrix spikes. Laboratory control samples may be certified reference materials.

All laboratory control samples conformed the laboratory assessment criteria and therefore the DAC.

7.8 *SURROGATES*

A surrogate is added at the extraction stage in order to verify method effectiveness. The surrogate is then analysed with the batch of samples. Percent recovery is calculated.

All laboratory surrogate samples conformed to the laboratory assessment criteria and therefore the DAC.

7.9 *MATRIX SPIKE*

A matrix spikes consist of samples spiked with a known concentration of the analyte measured, in order to identify properties of the matrix that may hinder method effectiveness. Samples are spiked with concentrations equivalent to 5 to 10 times the PQL. Percent recovery is calculated.

All matrix spikes conformed to the laboratory assessment criteria and therefore to the DAC.

7.10 *METHOD BLANKS*

Method blanks are carried through all stages of sample preparation and analysis. Analyte concentrations in blanks should be less than the stated PQL. Reagent blanks are run if the method blank exceeds the EQL. The purpose of method blanks is to detect laboratory contamination.

All method blanks conformed to the laboratory assessment criteria and therefore to the DAC.

7.11 *QAQC ASSESSMENT SUMMARY*

CES has a high degree of confidence in the quality of the field data (that is to say that the soil samples were representative of the material sampled, the samples were collected by an experienced sampler and that the chain of custody documentation was accurate) and the laboratory data (that is to say that Envirolab and ALS are NATA accredited laboratories, and undertake strict internal QA/QC of the results issued, uses appropriate methodology and practical quantification limits (PQL) to analyse soil samples and has completed sample documentation).

In consideration of the QAQC assessment, it is the opinion of CES that the data collected is suitable for the assessment of the site.

8 INVESTIGATION RESULTS

8.1 *SOIL SAMPLING FIELDWORK*

Fieldwork was carried out on 13, 14, 17, 18 and 27 July 2017 (site inspection completed on the 14 July 2017). An underground services search was carried out and each borehole location was cleared for underground services prior to commencement of fieldwork

Borehole drilling and sample collection was carried out using push tube and continuous flight auger. Boreholes were advanced through fill to natural soils to a maximum depth of 8.0 m or until refusal. One soil sample was collected from each borehole from the fill material between depths of 0.0 mbgl to 3.0 mbgl and tested for the range of analytes listed in section 5.8. A total of eight (8) samples were collected from fill and natural materials between depths of 3 mbgl and 8 mbgl and tested for the range of analytes listed in section 5.8.

Fill was encountered to a maximum depth of 7.2 mbgl in borehole BH08.

A summary of borehole locations, termination depth, and sample depth is presented as **Table 1.** PID screening results are displayed in **Table 11** and borehole logs are presented as **Appendix G**.

8.2 *SOIL LABORATORY ANALYTICAL RESULTS*

Soil analytical results are presented as Table 9. The laboratory Certificates of Analysis are presented in **Appendix H**.

8.2.1 *TRH and BTEX*

TRH and BTEX results for fill samples were all below laboratory PQL and therefore the SAC.

8.2.2 *PAHs*

PAH results in fill samples were below laboratory PQL in six of the fifteen samples scheduled for analysis and therefore below the Site Acceptance Criteria (SAC). Of the remaining samples, all were below the SAC with the exception of BH12-0.5-0.6 which had a benzo(a)pyrene concentration of 1.4 mg/kg, exceeding the NEPM (2013) ESL criteria concentration of 0.7 mg/kg.

8.2.3 *Heavy Metals*

Heavy metal concentrations in fill samples were below the SAC.

8.2.4 *OCPs*

OCP results in fill samples were below laboratory PQL and therefore the SAC.

8.2.5 *OPPs*

OPP results in fill samples were below laboratory PQL and therefore the SAC.

8.2.6 *PCBs*

PCB results in fill samples were below laboratory PQL and therefore the SAC.

8.2.7 *Asbestos*

No asbestos was detected in the fill samples analysed. In addition, no potential asbestos containing materials were observed within the site soils.

8.2.8 *Total Organic Carbon*

TOC was analysed in eight (8) samples of fill materials and natural soil collected from depths below three (3) metres. Concentrations of TOC in the samples analysed were all below 1% w/w and therefore below the screening values for maximum TOC content of Made Ground for Characteristic Situation 1.

8.3 *GROUNDWATER FIELDWORK*

Two boreholes drilled for the purposes of the preliminary geotechnical investigation were converted to groundwater monitoring wells. Water samples were collected from both wells and tested for a range of analytes listed in section 5.8.

8.3.1 *Groundwater Quality Field Parameters*

During purging of the groundwater wells, groundwater quality field parameters were measured using a multi-parameter water quality meter which measured; temperature, pH, conductivity (EC), salinity, dissolved oxygen (DO) and oxidation-reduction potential (ORP). This equipment was calibrated by the equipment supplier prior to use on-site and did not require adjusting for redox measurements. Groundwater gauging data is presented in **Table 2** and field data sheets and calibration certificates for the water quality meter is presented in **Appendix I**. Groundwater quality field parameters are presented in **Table 8.3.1**.

Table 8.3.1: Stabilised Field Measured Groundwater Parameters

Well ID	Temperature (Degrees Celsius)	Electrical Conductivity (uS/cm)	pH	Dissolved Oxygen (ppm)	Redox (mV)
BH02	19.9	13,000	6.34	2.36	223
BH03	21.0	10,650	6.08	3.74	169

At the time of groundwater sampling the groundwater was described as brown coloured, ranging from slightly turbid to turbid and odourless.

Groundwater field parameters recorded indicate that groundwater beneath the site is generally saline.

8.4 *GROUNDWATER LABORATORY RESULTS*

Groundwater analytical results are presented as **Table 10**. The laboratory Certificates of Analysis are presented in **Appendix H**.

8.4.1 *TRH and BTEX*

TRH and BTEX results for groundwater samples were all below laboratory PQL with the exception of the concentration of o-xylene in the sample collected from BH03 which had a concentration equal to the laboratory PQL (1 µg/L). The results therefore were below the SAC.

8.4.2 *PAH*

PAH results in groundwater samples were below laboratory PQL and therefore below the SAC.

8.4.3 *Heavy Metals*

Heavy metal concentrations in groundwater samples were below the SAC, with the following exceptions

- Copper concentrations in BH02 (3 µg/L) exceeded the GIL threshold concentration of 1.3 µg/L for marine waters and the GIL threshold concentration of 1.4 µg/L for fresh waters;
- Nickel concentrations in BH02 (48 µg/L) and BH03 (38 µg/L) exceeded the GIL threshold concentration of 7 µg/L for marine waters and the GIL threshold concentration of 11 µg/L for fresh waters; and
- Zinc concentrations in BH02 (48 µg/L) and BH03 (49 µg/L) exceeded the GIL threshold concentration of 15 µg/L for marine waters and the GIL threshold concentration of 8 µg/L for fresh waters.

8.4.4 *OCPs*

OCP results in groundwater samples were below laboratory PQL and therefore the SAC.

8.4.5 *OPPs*

OPP results in groundwater samples were below laboratory PQL and therefore the SAC.

8.4.6 *PCBs*

PCB results in groundwater samples were below laboratory PQL and therefore the SAC.

9 DISCUSSION

Based on information provided by the client, the proposed redevelopment consists of a high density residential seniors living facility. It is understood that the proposed development will occupy the entire footprint of the site with high density residential buildings for seniors living use and landscaped corridors in addition to one level of basement car parking to an indeterminate depth across the entire footprint of the proposed development. Based on the preliminary design drawing provided to CES the basement car park will be constructed over the entire footprint of the site. Based on this information, future site users will not have access to site soils with the exception of the landscaped corridors overlying the basement carpark.

9.1 *PRELIMINARY SITE ASSESSMENT*

As there were no analysed fill samples that exceeded the human health based SAC, it is understood that it is unlikely that site soils located with the main flat area of the site pose a potential risk to human health at the site for the proposed high density residential development. However, the investigation was limited in scope and does not meet the minimum sample density. A minimum of 13 additional sample locations should be investigated to meet the NSW EPA Sampling Design Guidelines (1995) requirements

Previous investigations detected PAH and asbestos impacts within the embankment which requires further investigation, and may require remediation to make the site suitable for the proposed use.

One sample collected from 0.5-0.6 mbgl and analysed for PAHs did exceed the ecological based SAC for benzo(a)pyrene, however as the entire footprint of the proposed development is to be excavated for the construction of a basement carpark this is not considered to be a significant issue.

Any landscape material imported to the site should be assessed to confirm that it is suitable for the proposed land use.

Groundwater at the site exceeded the criteria for NEPM (2013) GIL for fresh waters and marine waters in both of the samples analysed for heavy metals (nickel, copper and zinc). The heavy metal concentrations of the groundwater sampled is not expected to be attributed to activities or materials on site but is likely to be a result of natural background concentrations. In addition, the likely very low permeability of the onsite geology of the area, the depth of groundwater, and nature of the proposed site use indicates that the site is unlikely to impact the receiving marine ecosystem of the Cooks River or be extracted for potable use, thus limiting both human health and ecological risk.

TOC content of materials below three metres were all less than 1%, ranging from 0.0015% to 0.014%. Comparison with the CLAIRE (2012) limiting values indicates that the material would meet the requirements for Characteristic Situation 1. This indicates the site can be classified as very low risk in accordance with the NSW EPA Guidelines for Assessment and Management of Sites Impacted by Hazardous Ground Gas. Characteristic Situation 1 indicates that gas protection measures are not necessary to be implemented during the construction of the proposed development.

9.2 *PRELIMINARY WASTE CLASSIFICATION*

The preliminary investigation of the soil at the site, including comparison of the 95% upper confidence limit (UCL) of the mean concentrations against Table 1 of the NSW EPA (2014) Waste Classification Guidelines indicate that the fill material is expected to be be classified as General Solid Waste. Further sampling and analysis will be required to classify and validate these soils at time of the proposed excavation and development.

9.3 *RECCOMENDED FURTHER WORK*

As detailed in Section 9.1 additional investigation work is required to meet the NSW EPA minimum sample density requirement for a site 1.8 ha. A further 13 locations should be investigated to meet the recommended 28 sample locations. The further investigations should be targeted to investigate the area of the site which has the highest risk of unsuitable contamination, the embankment which is currently subject to an EMP.

9.4 *REVISED CSM*

A revised CSM has been developed in consideration of the findings of the preliminary investigation taking into account the possible future high density residential redevelopment.

9.4.1 *Potential Sources of Contamination*

Uncontrolled fill has been identified as a potential source of contamination on the main area and the embankment area due to the historical cut and fill activities that may have occurred during development at the reservoir site. In consideration of the previous environmental investigations and remediation works undertaken at the site and of the findings of this investigation, COPC typically encountered and likely to be remaining on site include:

- PAHs;
- Heavy Metals; and
- Asbestos.

9.4.2 *Potential Off-Site Sources of Contamination*

There have been no potential off-site sources of contamination identified within the surrounds of the site.

9.4.3 *Potential Pathways*

The pathways through which contaminants may reach receptors are in part dependent on the nature and behaviour of the contaminant. The following potential pathways have been identified:

- Ingestion / dermal contact during construction;
- Inhalation of contaminants in the particulate form (dust);
- Leaching of contaminants from site soils into groundwater; and
- Lateral migration of contaminants in groundwater (dissolved and immiscible phases) to surface waters.

9.4.4 *Receptors*

Potential sensitive receptors (on and off-site) are listed below:

- Future construction workers during the construction of the proposed redevelopment;
- Future residents and employees;
- Groundwater beneath the site;
- Neighbouring residents and
- Cooks River (250 m NE of the site).

10 SUMMARY AND RECOMMENDATION

The results of this Stage 1 – Preliminary Site Investigation and intrusive soil and groundwater investigation indicate that the site and surrounding areas have a history of industrial land use. Potentially contaminating land use activities that have been identified to have occurred onsite include:

- Commercial activities associated with the surrounding Sydney Water Corporation reservoirs; and
- Application of uncontrolled fill on the site.

The environmental investigation undertaken at the site to characterise the soils and groundwater and to determine a preliminary waste classification of the soils to 3 mbgl consisted of sampling fill material from fifteen (15) boreholes at the site. The drilling of the boreholes showed the fill materials to generally consist of gravelly clay to a maximum depth of 7.2 mbgl (BH08). The investigation of the soil has indicated no presence of contamination at concentrations exceeding the human health based SAC. One sample collected from 0.5-0.6m and analysed for PAHs indicated concentrations of benzo(a)pyrene exceeding the ecological based SAC. This however is not considered an issue as the proposed development includes the excavation of the entire footprint of the proposed development for construction of a basement carpark.

Two of the fifteen boreholes were installed with groundwater monitoring wells for the purpose of sampling and analysing groundwater at the site. The results of the laboratory analysis indicated concentrations of heavy metal (nickel, copper and zinc) in both samples exceeding the SAC. Due to the indicated depth to groundwater it is likely that these concentrations are unlikely to be attributed to past works at the site.

The TOC content of the eight samples of fill and natural soil analysed indicates that there is a very low ground gas risk.

Contaminant concentrations of the fill materials to a depth of 3 mbgl also indicated a preliminary waste classification to be classified as general solid waste. If material is to be re-used onsite or disposed offsite additional sampling would be required to confirm this waste classification in accordance with the NSW EPA (2014) Waste Classification Guidelines at the time of excavation.

It is determined that the site is likely to be suitable for the proposed high density residential seniors living development, pending the additional investigation outlined in Section 9.3

11 LIMITATIONS OF THIS REPORT

This report has been prepared for use by the client who commissioned the works in accordance with the project brief and based on information provided by the client. The advice contained in this report relates only to the current project and all results, conclusions and recommendations should be reviewed by a competent person with experience in geotechnical and environmental investigations before being used for any other purpose. CES accepts no liability for use or interpretation by any person or body other than the client. This report must not be reproduced except in full and must not be amended in any way without prior approval by the client and CES.

This report does not provide a complete assessment of the environmental status of the site and is limited to the scope defined therein. It is noted that areas of the site could not be investigated due to the presence of structures including the residential property and presence of ponds. Should information become available regarding conditions at the site including previously unknown sources of contamination, CES reserves the right to review the report in the context of the additional information.

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Figures



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Figure 1: Site Location Plan

CES Project ID:	Date:
CES170303-SD	09/08//2017
Prepared By:	Checked By:
I. Wong	D. Lowe



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Figure 2: Borehole Location Plan

CES Project ID:	Date:
CES170303-SD	09/08//2017
Prepared By:	Checked By:
I. Wong	D. Lowe

Tables

Table 1: Summary of Borehole Information

Sample Point	Date Drilled/Sampled	Easting	Northing	Ground Level (mAHD)	Termination Depth (m)	RL (mAHD)	Depth of analysed sample (m)
BH1	13-Jul	318242	6247380	56	19	37	2.0-2.2
BH2	13-Jul	318287	6247448	56	12	44	1.3-1.5
BH3	14-Jul	318258	6247503	56	10.2	45.8	2.0-2.2
BH4	17-Jul	318223	6247391	56	7.5	48.5	0.8-0.9
BH5	18-Jul	318241	6247414	56	8	48	0.4-0.6
BH6	17-Jul	318286	6247470	56	8	48	1.2-1.3 / 7.6-7.7
BH7	17-Jul	318305	6247481	55	7.5	47.5	2.0-2.1
BH8	17-Jul	318304	6247515	55	8	47	1.6-1.7
BH9	17-Jul	318249	6247480	55	7.4	47.6	1.1-1.2 / 5.3-5.4
BH10	17-Jul	318286	6247503	55	8	47	2.0-2.1 / 6.0-6.1
BH11	18-Jul	318297	6247415	55	8	47	1.9-2.0 / 3.5-3.6
BH12	18-Jul	318297	6247381	54	7	47	0.5-0.6 / 5.0-5.1
BH13	18-Jul	318269	6247403	55	7.5	47.5	2.8-2.9
BH14	18-Jul	318277	6247448	56	8.2	47.8	2.4-2.5
BH15	18-Jul	318240	6247447	56	8.5	47.5	1.0-1.1 / 5.6-5.8

Note: Borehole coordinates were estimated using Google Maps and elevation was approximated from Google Earth.

Table 2: Groundwater Gauging Data

Well ID	Date	Coordinates		Top of Casing (TOC) Elevation	Ground Elevation	Measured Total Depth of Well	Depth to Water	Groundwater elevation	Depth to Product	Thickness of product	Corrected Groundwater Elevation
		Easting	Northing	m AHD	m AHD	m bgs	m BTOC	m AHD	m BTOC	m	m AHD
BH2	13-Jul-17	318287	6247448	55.93	56	11.790	9.202	46.728	-	0	46.728
BH3	14-Jul-17	318258	6247503	55.92	56	10.02	8.206	47.714	-	0	47.714

Note: Borehole coordinates were estimated using Google Maps and elevation was approximated from Google Earth.

Table 3a: Containers, preservation requirements, holding times and samples analysed - soil

Parameter	Container	Recommended Preservation	Maximum holding time	Number of samples analysed
Acid digestible metals and metalloids - Total and TCLP (As,Cd,Cu,Cr,Ni,Pb,Zn)	Glass with Teflon lid	Cool to <6°C	6 months	15
Mercury	Glass with Teflon lid	Cool to <6°C	28 days	15
Asbestos	Bag	Nil	Indefinite	15
TPH/BTEX	Glass with Teflon lid	4oC, zero headspace	14 days	23
PAHs (total and TCLP)	Glass with Teflon lid	4oC	14 days [1]	15
OCPs	Glass with Teflon lid	Cool to <6°C	14 days	15
OPPs	Glass with Teflon lid	Cool to <6°C	14 days	15
PCBs	Glass with Teflon lid	Cool to <6°C, dark	28 days	15
Total Organic Carbon	Glass with Teflon lid	pH <2 (H2SO4 or HCl) + Cool to <6°C, dark	28 days	8
Note 1: Extraction within 14 days. Analysis within 40 days.				

Table 3b: Containers, preservation requirements, holding times and samples analysed - groundwater

Parameter	Container	Recommended Preservation	Maximum holding time	Number of samples analysed
Dissolved metals and metalloids (As,Cd,Cu,Cr,Ni,Pb,Zn)	Glass with Teflon lid	Cool to <6°C	6 months	2
Mercury	Glass with Teflon lid	Cool to <6°C	28 days	2
TPH/BTEX	Glass with Teflon lid	4oC, zero headspace	14 days	2
PAHs	Glass with Teflon lid	4oC	14 days	2
OCPs	Glass with Teflon lid	Cool to <6°C	7 days	2
OPPs	Glass with Teflon lid	Cool to <6°C	7days	2
PCBs	Glass with Teflon lid	Cool to <6°C, dark	7days	2
Note 1: Extraction within 14 days. Analysis within 40 days.				

Table 4: Analytical parameters, PQLs and methods - Soil

Parameter	Unit	PQL	Method based on
Metals in Soil			
As [1]	mg kg^{-1}	4	USEPA 200.7
Cd [1]	mg kg^{-1}	0.4	USEPA 200.7
Cr [1]	mg kg^{-1}	1	USEPA 200.7
Cu [1]	mg kg^{-1}	1	USEPA 200.7
Hg [2]	mg kg^{-1}	0.1	USEPA 7471A
Ni [1]	mg kg^{-1}	1	USEPA 200.7
Pb [1]	mg kg^{-1}	1	USEPA 200.7
Zn [1]	mg kg^{-1}	1	USEPA 200.7
Total Petroleum Hydrocarbons (TPH) in Soil			
C_6-C_9 fraction	mg kg^{-1}	25	USEPA 8015B
C_{10}-C_{14} fraction	mg kg^{-1}	50	USEPA 8015B
C_{15}-C_{28} fraction	mg kg^{-1}	100	USEPA 8015B
C_{29}-C_{36} fraction	mg kg^{-1}	100	USEPA 8015B
BTEX in Soil			
Benzene	mg kg^{-1}	0.2	USEPA 8021A
Toluene	mg kg^{-1}	0.5	USEPA 8021A
Ethylbenzene	mg kg^{-1}	1	USEPA 8021A
m&p-xylene	mg kg^{-1}	2	USEPA 8021A
o-xylenes	mg kg^{-1}	1	USEPA 8021A
Organic Contaminants in Soil			
PAHs	mg kg^{-1}	0.1	USEPA 8270 SIM
Organochlorine Pesticides (OPC) in Soil			
OCPs	mg kg-1	0.1	USEPA 8081
Organophosphate Pesticides (OPP) in Soil			
OPPs	mg kg-1	0.1	USEPA 8270 or 8141
Polychlorinated Biphenyls (PCB) in Soil			
PCBs	mg kg-1	0.1	USEPA 8082
Asbestos in Soil			
Asbestos in Soil	g/kg	0.1	AS4964-2004

Note 1: Acid soluble metals by ICP-AES.

Note 2: Total recoverable mercury.

Table 5: Analytical parameters, PQLs and methods - Groundwater

Parameter	Unit	PQL	Method based on
Dissolved Metals in Groundwater			
As [1]	mg L^{-1}	1	USEPA 200.7
Cd [1]	mg L^{-1}	0.1	USEPA 200.7
Cr [1]	mg L^{-1}	1	USEPA 200.7
Cu [1]	mg L^{-1}	1	USEPA 200.7
Hg [2]	mg L^{-1}	0.05	USEPA 7471A
Ni [1]	mg L^{-1}	1	USEPA 200.7
Pb [1]	mg L^{-1}	1	USEPA 200.7
Zn [1]	mg L^{-1}	1	USEPA 200.7
Total Petroleum Hydrocarbons (TPH) in Groundwater			
C_6-C_9 fraction	µg L^{-1}	10	USEPA 8015B
C_{10}-C_{14} fraction	µg L^{-1}	50	USEPA 8015B
C_{15}-C_{28} fraction	µg L^{-1}	100	USEPA 8015B
C_{29}-C_{36} fraction	µg L^{-1}	100	USEPA 8015B
BTEX in Groundwater			
Benzene	µg L^{-1}	1	USEPA 8021A
Toluene	µg L^{-1}	1	USEPA 8021A
Ethylbenzene	µg L^{-1}	1	USEPA 8021A
m&p-xylene	µg L^{-1}	2	USEPA 8021A
o-xylenes	µg L^{-1}	1	USEPA 8021A
Organic Contaminants in Groundwater			
PAHs	µg L^{-1}	1	USEPA 8270 SIM
Organochlorine Pesticides (OPC) in Groundwater			
OCPs	µg L^{-1}	0.2	USEPA 8081
Organophosphate Pesticides (OPP) in Groundwater			
OPPs	µg L^{-1}	0.2	USEPA 8270 or 8141
Polychlorinated Biphenyls (PCB) in Groundwater			
PCBs	µg L^{-1}	2	USEPA 8082

Note 1: Acid soluble metals by ICP-AES.

Note 2: Total recoverable mercury.

Table 6: Site Assessment Criteria - Soil and Groundwater

Contaminant	HIL (Setting A)[1] (mg/kg)	HSL (Settings A & B)[2] (mg/kg)	EIL (urban residential and public open space)[3] (mg/kg)	ESL (Urban Residential and public open space)[4] (mg/kg)	CT1 Values - General Solid Waste[1] (mg/kg)	CT2 Values - Restricted Solid Waste[2] (mg/kg)
TRH C6 - C9					**650**	**2600**
TRH C6 - C10						
FRACTION 1		**50**		**180**		
TRH C10 - C14						
TRH C15 - C28						
TRH C29 - C36						
TRH total C10 - C36						
TRH C10-C36						
TRH >C10-C16						
FRACTION 2		**280**		**120**		
TRH >C16-C34				**1300**		
TRH >C34-C40				**5600**		
TRH total >C10-C40					**10000**	**40000**
Benzene		**0.7**		**65**	**10**	**40**
Toluene		**480**		**105**	**288**	**1152**
Ethylbenzene				**125**	**600**	**2400**
m+p-xylene						
o-Xylene						
Xylenes		**110**		**45**	**1000**	**4000**
Naphthalene		**5**	**170**			
Acenaphthylene						
Acenaphthene						
Fluorene						
Phenanthrene						
Anthracene						
Fluoranthene						
Pyrene						
Benzo(a)anthracene						
Chrysene						
Benzo(b+k)fluoranthene						
Benzo(a)pyrene				**0.7**	**0.8**	**3.2**
Indeno(1,2,3-c,d)pyrene						
Dibenzo(a,h)anthracene						
Benzo(g,h,i)perylene						
Benzo(a)pyrene TEQ	**3**					
Total +ve	**300**				**200**	**800**
HCB	**10**					
alpha-BHC						
gamma-BHC						
beta-BHC						
Heptachlor	**6**					
delta-BHC						
Aldrin						
Heptachlor Epoxide						
gamma-Chlordane						
alpha-chlordane						
Endosulfan I	**270**				**60**	**240**
pp-DDE						
Dieldrin						
Endrin						
pp-DDD						
Endosulfan II						
pp-DDT			**180**			
Endrin Aldehyde						
Endosulfan Sulphate						
Methoxychlor	**300**					
Endosulfan (Endosulfan I + Endosulfan 2 + Endosulfan sulphate)					**60**	**240**
Azinphos-methyl (Guthion)						
Bromophos-ethyl						
Chlorpyriphos					**4**	**16**
Chlorpyriphos-methyl						
Diazinon						
Dichlorvos						
Dimethoate						
Ethion						
Fenitrothion						
Malathion						
Parathion						
Ronnel						
Aroclor 1016						
Aroclor 1221						
Aroclor 1232						
Aroclor 1242						
Aroclor 1248						
Aroclor 1254						
Aroclor 1260						
PCBs					**<50**	**<50**
Arsenic	**100**		**100**		**100**	**400**
Cadmium	**20**				**20**	**80**
Chromium	**100**		**400**		**100**	**400**
Copper	**6000**		**210**			
Lead	**300**		**1100**		**100**	**400**
Mercury	**40**				**4**	**16**
Nickel	**400**		**270**		**40**	**160**
Zinc	**7400**		**700**			
Asbestos						

Note 1: NEPC (1999, as amended 2013) – Schedule B1 Guideline on Investigation Levels for Soil and Groundwater, HIL A (Residential with garden accessible soil)
Note 2: (NEPC< 1999, as amended 2013) - Schedule B1, Guideline on Invesitgation Levels For Soil and Groundwater, HSL A (Clay, 0m to <1m)
Note 3: (NEPC< 1999, as amended 2013) - Schedule B1, Guideline on Invesitgation Levels For Soil and Groundwater, EIL (urban residential and public open space)
Note 4: (NEPC< 1999, as amended 2013) - Schedule B1, Guideline on Invesitgation Levels For Soil and Groundwater, ESL (urban residential and public open space)

Table 7: QC Sample Data Acceptance Criteria

QC Sample Type	Method of Assessment	Acceptable Range
Field QC		
Blind Replicates and Split Samples	The assessment of split replicate is undertaken by calculating the Relative Percent Difference (RPD) of the replicate concentration compared with the original sample concentration. The RPD is defined as: $RPD = 100 \times \frac{\lvert X_1 - X_2 \rvert}{Average}$ Where: X_1 and X_2 are the concentration of the original and replicate samples.	The acceptable range depends upon the levels detected: ▪ 0 – 100% RPD (When the average concentration is < 5 times the LOR/EQL) ▪ 0 – 75% RPD (When the average concentration is 5 to 10 times the LOR/EQL) ▪ 0 – 50% RPD (When the average concentration is > 10 times the LOR/EQL)
Blanks (Rinsate and Trip Blanks)	Each blank is analysed as per the original samples.	Analytical Result < LOR/EQL
Laboratory-prepared Trip Spike	The trip spike is analysed after returning from the field and the % recovery of the known spike is calculated.	70% - 130%
Laboratory QC		
Laboratory Duplicates	Assessment as per Blind Replicates and Split Samples.	The acceptable range depends upon the levels detected: ▪ 0 – 100% RPD (When the average concentration is < 4 times the LOR/EQL) ▪ 0 – 50% RPD (When the average concentration is 4 to 10 times the LOR/EQL) ▪ 0 – 30% RPD (When the average concentration is > 10 times the LOR/EQL)
Surrogates Matrix Spikes Laboratory Control Samples	Assessment is undertaken by determining the percent recovery of the known spike or addition to the sample. $\% \text{ Recovery} = 100 \times \frac{C - A}{B}$ Where: A = Concentration of analyte determined in the original sample; B = Added Concentration; C = Calculated Concentration.	70% - 130% (General Analytes) 50% - 130% (Phenols) 60% - 130% (OP Pesticides) If the result is outside the above ranges, the result must be < 3x Standard Deviation of the Historical Mean (calculated over past 12 months)
Method Blanks	Each blank is analysed as per the original samples.	Analytical Result < LOR/EQL

Note: EQL = Laboratory Estimated Quantitation Limit (EQL) or the minimum detection limit for a particular analyte. LOR = Limit of Reporting or the minimum

Table 8a: QA/QC tabulated results - Soil

					Soil Sample	BH05-2.0-2.1	Q1	Q2	Average	Blind RPD	Average	Split RPD
					Sample Type	Original	Blind replicate	Split replicate				
					Laboratory report	171621	171621	ES1717866				
Parameters	**Unit**	**Primary PQL**	**Blind PQL**	**Split PQL**						**%**		**%**
TRH C6 - C9	mg/kg	25	25	10	<25	<25	<10	N/A	N/A	N/A	N/A	
TRH C6 - C10	mg/kg	25	25	10	<25	<25	<10	N/A	N/A	N/A	N/A	
FRACTION 1	mg/kg	25	25	10	<25	<25	<10	N/A	N/A	N/A	N/A	
TRH C10 - C14	mg/kg	50	50	50	<50	<50	<50	N/A	N/A	N/A	N/A	
TRH C15 - C28	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A	
TRH C29 - C36	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A	
TRH >C10-C16	mg/kg	50	50	50	<50	<50	<50	N/A	N/A	N/A	N/A	
FRACTION 2	mg/kg	50	50	50	<50	<50	<50	N/A	N/A	N/A	N/A	
TRH >C16-C34	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A	
TRH >C34-C40	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A	
Benzene	mg/kg	0.2	0.2	0.2	<0.2	<0.2	<0.2	N/A	N/A	N/A	N/A	
Toluene	mg/kg	0.5	0.5	0.5	<0.5	<0.5	<0.5	N/A	N/A	N/A	N/A	
Ethylbenzene	mg/kg	1	1	0.5	<1	<1	<0.5	N/A	N/A	N/A	N/A	
m+p-xylene	mg/kg	2	2	0.5	<2	<2	<0.5	N/A	N/A	N/A	N/A	
o-Xylene	mg/kg	1	1	0.5	<1	<1	<0.5	N/A	N/A	N/A	N/A	
Naphthalene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Acenaphthylene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Acenaphthene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Fluorene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Phenanthrene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Anthracene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Fluoranthene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Pyrene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Benzo(a)anthracene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Chrysene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Benzo(b+k)fluoranthene	mg/kg	0.2	0.2	0.5	<0.2	<0.2	<0.5	N/A	N/A	N/A	N/A	
Benzo(a)pyrene	mg/kg	0.05	0.05	0.5	<0.05	<0.05	<0.5	N/A	N/A	N/A	N/A	
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Dibenzo(a,h)anthracene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Benzo(g,h,i)perylene	mg/kg	0.1	0.1	0.5	<0.1	<0.1	<0.5	N/A	N/A	N/A	N/A	
Benzo(a)pyrene TEQ	mg/kg	0.5	0.5	0.5	<0.5	<0.5	1.2	N/A	N/A	1.2	N/A	
Total +ve	mg/kg	-	-	0.5	<0.05	<0.05	<0.5	N/A	N/A	N/A	N/A	
HCB	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
alpha-BHC	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
gamma-BHC	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
beta-BHC	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Heptachlor	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
delta-BHC	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Aldrin	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Heptachlor Epoxide	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
gamma-Chlordane	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
alpha-chlordane	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Endosulfan I	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
pp-DDE	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Dieldrin	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Endrin	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
pp-DDD	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Endosulfan II	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
pp-DDT	mg/kg	0.1	0.1	0.2	<0.1	<0.1	<0.2	N/A	N/A	N/A	N/A	
Endrin Aldehyde	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Endosulfan Sulphate	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Methoxychlor	mg/kg	0.1	0.1	0.2	<0.1	<0.1	<0.2	N/A	N/A	N/A	N/A	
Azinphos-methyl (Guthio	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Bromophos-ethyl	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Chlorpyriphos	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Chlorpyriphos-methyl	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Diazinon	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Dichlorvos	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Dimethoate	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Ethion	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Fenitrothion	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Malathion	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Parathion	mg/kg	0.1	0.1	0.2	<0.1	<0.1	<0.2	N/A	N/A	N/A	N/A	
Ronnel	mg/kg	0.1	0.1	0.05	<0.1	<0.1	<0.05	N/A	N/A	N/A	N/A	
Aroclor 1016	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Aroclor 1221	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Aroclor 1232	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Aroclor 1242	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Aroclor 1248	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Aroclor 1254	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Aroclor 1260	mg/kg	0.1	0.1	-	<0.1	<0.1	nt	N/A	N/A	N/A	N/A	
Arsenic	mg/kg	4	4	5	4	<4	<5	4	N/A	4.0	N/A	
Cadmium	mg/kg	0.4	0.4	1	<0.4	<0.4	<1	N/A	N/A	N/A	N/A	
Chromium	mg/kg	1	1	2	11	11	16	11	0.0%	13.5	37%	
Copper	mg/kg	1	1	5	34	35	40	34.5	2.9%	37.0	16.2%	
Lead	mg/kg	1	1	5	19	13	18	16	37.5%	18.5	5.4%	
Mercury	mg/kg	0.1	0.1	0.1	<0.1	<0.1	<0.1	N/A	N/A	N/A	N/A	
Nickel	mg/kg	1	1	2	18	17	22	17.5	5.7%	20.0	20%	
Zinc	mg/kg	1	1	5	75	63	84	69	17.4%	79.5	11.3%	

Table 8a: QA/QC tabulated results - Soil - continued

					Soil Sample	BH15-5.6-5.8	Q3	Q4	Average	Blind RPD	Average	Split RPD
					Sample Type	Original	Blind replicate	Split replicate				
					Laboratory report	171621	171621	ES1717866				
Parameters	**Unit**	**Primary PQL**	**Blind PQL**	**Split PQL**						**%**		**%**
TRH C6 - C9	mg/kg	25	25	10	<25	<25	<10	N/A	N/A	N/A	N/A
TRH C6 - C10	mg/kg	25	25	10	<25	<25	<10	N/A	N/A	N/A	N/A
FRACTION 1	mg/kg	25	25	10	<25	<25	<10	N/A	N/A	N/A	N/A
TRH C10 - C14	mg/kg	50	50	50	<50	<50	<50	N/A	N/A	N/A	N/A
TRH C15 - C28	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A
TRH C29 - C36	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A
TRH >C10-C16	mg/kg	50	50	50	<50	<50	<50	N/A	N/A	N/A	N/A
FRACTION 2	mg/kg	50	50	50	<50	<50	<50	N/A	N/A	N/A	N/A
TRH >C16-C34	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A
TRH >C34-C40	mg/kg	100	100	100	<100	<100	<100	N/A	N/A	N/A	N/A
Benzene	mg/kg	0.2	0.2	0.2	<0.2	<0.2	<0.2	N/A	N/A	N/A	N/A
Toluene	mg/kg	0.5	0.5	0.5	<0.5	<0.5	<0.5	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	1	1	0.5	<1	<1	<0.5	N/A	N/A	N/A	N/A
m+p-xylene	mg/kg	2	2	0.5	<2	<2	<0.5	N/A	N/A	N/A	N/A
o-Xylene	mg/kg	1	1	0.5	<1	<1	<0.5	N/A	N/A	N/A	N/A

Table 8b: QA/QC tabulated results - Groundwater

			Soil Sample	170727-JJ-BH02	170727-JJ-QAQC	Average	Blind RPD
			Sample Type	Original	Blind replicate		
			Laboratory report	172229	172229		
Parameters	Unit	Primary PQL	Blind PQL			µg/L	%
TRH C6 - C9	µg/L	10	10	<10	<10	N/A	N/A
TRH C6 - C10	µg/L	10	10	<10	<10	N/A	N/A
FRACTION 1	µg/L	10	10	<10	<10	N/A	N/A
TRH C10 - C14	µg/L	50	50	<50	<50	N/A	N/A
TRH C15 - C28	µg/L	100	100	<100	<100	N/A	N/A
TRH C29 - C36	µg/L	100	100	<100	<100	N/A	N/A
TRH >C10-C16	µg/L	50	50	<50	<50	N/A	N/A
FRACTION 2	µg/L	50	50	<50	<50	N/A	N/A
TRH >C16-C34	µg/L	100	100	<100	<100	N/A	N/A
TRH >C34-C40	µg/L	100	100	<100	<100	N/A	N/A
Benzene	µg/L	1	1	<1	<1	N/A	N/A
Toluene	µg/L	1	1	<1	<1	N/A	N/A
Ethylbenzene	µg/L	1	1	<1	<1	N/A	N/A
m+p-xylene	µg/L	2	2	<2	<2	N/A	N/A
o-Xylene	µg/L	1	1	<1	<1	N/A	N/A
Naphthalene	µg/L	1	1	<1	<1	N/A	N/A
Acenaphthylene	µg/L	1	1	<1	<1	N/A	N/A
Acenaphthene	µg/L	1	1	<1	<1	N/A	N/A
Fluorene	µg/L	1	1	<1	<1	N/A	N/A
Phenanthrene	µg/L	1	1	<1	<1	N/A	N/A
Anthracene	µg/L	1	1	<1	<1	N/A	N/A
Fluoranthene	µg/L	1	1	<1	<1	N/A	N/A
Pyrene	µg/L	1	1	<1	<1	N/A	N/A
Benzo(a)anthracene	µg/L	1	1	<1	<1	N/A	N/A
Chrysene	µg/L	1	1	<1	<1	N/A	N/A
Benzo(b+k)fluoranthene	µg/L	2	2	<2	<2	N/A	N/A
Benzo(a)pyrene	µg/L	1	1	<1	<1	N/A	N/A
Indeno(1,2,3-c,d)pyrene	µg/L	1	1	<1	<1	N/A	N/A
Dibenzo(a,h)anthracene	µg/L	1	1	<1	<1	N/A	N/A
Benzo(g,h,i)perylene	µg/L	1	1	<1	<1	N/A	N/A
Benzo(a)pyrene TEQ	µg/L	5	5	<5	<5	N/A	N/A
Total +ve	µg/L	1	1	NIL (+)VE	NIL (+)VE	N/A	N/A
HCB	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
alpha-BHC	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
gamma-BHC	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
beta-BHC	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Heptachlor	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
delta-BHC	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Aldrin	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Heptachlor Epoxide	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
gamma-Chlordane	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
alpha-chlordane	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Endosulfan I	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
pp-DDE	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Dieldrin	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Endrin	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
pp-DDD	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Endosulfan II	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
pp-DDT	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Endrin Aldehyde	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Endosulfan Sulphate	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Methoxychlor	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Azinphos-methyl (Guthio	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Bromophos-ethyl	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Chlorpyriphos	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Chlorpyriphos-methyl	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Diazinon	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Dichlorvos	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Dimethoate	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Ethion	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Fenitrothion	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Malathion	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Parathion	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Ronnel	µg/L	0.2	0.2	<0.2	<0.2	N/A	N/A
Aroclor 1016	µg/L	2	2	<2	<2	N/A	N/A
Aroclor 1221	µg/L	2	2	<2	<2	N/A	N/A
Aroclor 1232	µg/L	2	2	<2	<2	N/A	N/A
Aroclor 1242	µg/L	2	2	<2	<2	N/A	N/A
Aroclor 1248	µg/L	2	2	<2	<2	N/A	N/A
Aroclor 1254	µg/L	2	2	<2	<2	N/A	N/A
Aroclor 1260	µg/L	2	2	<2	<2	N/A	N/A
Arsenic	µg/L	1	1	<1	<1	N/A	N/A
Cadmium	µg/L	0.1	0.1	0.2	0.2	0.2	0.0%
Chromium	µg/L	1	1	<1	<1	N/A	N/A
Copper	µg/L	1	1	3	5	4	50.0%
Lead	µg/L	1	1	<1	<1	N/A	N/A
Mercury	µg/L	0.05	0.05	<0.05	<0.05	N/A	N/A
Nickel	µg/L	1	1	48	47	47.5	2.1%
Zinc	µg/L	1	1	48	43	45.5	11.0%

Table 9 - Soil Analytical Results

Sample Location			BH1	BH2	BH3	BH4		BH5		BH6		BH7	BH8		BH9			BH10		BH11		BH12			BH13	BH14	BH15		NEPM (2013) HIL - Residential A	NEPM (2013) HSL - A & B: Low - high density residential - clay; 0 - <1m	NEPM (2013) EIL (urban residential and public open space)	NEPM (2013) ESL (Urban Residential and public open space)	NEPM (2013) Asbestos HSL - Residential B	CT1 Values - General Solid Waste	CT2 Values - Restricted Solid Waste					
Depth (m)			2.0-2.2	1.3-1.5	2.0-2.2	0.8-0.9	0.8-0.9	0.4-0.6	4.3-4.4	1.2-1.3	7.6-7.7	2.0-2.1	1.6-1.7	4.4-4.5	1.1-1.2	5.3-5.4	5.3-5.4	2.0-2.1	6.0-6.2	1.9-2.0	3.5-3.6	0.5-0.6	5.0-5.1	5.0-5.1	2.8-2.9	2.4-2.5	1.0-1.1	5.6-5.8											
Date Sampled			13-Jul-17	13-Jul-17	14-Jul-17	17-Jul-17	17-Jul-17	18-Jul-17	18-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	17-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17	18-Jul-17											
Unit			Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Natural	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Natural	Fill	Fill	Fill	Natural	Natural	Fill	Fill	Fill	Natural											
Laboratory report			171307	171307	171428	171503	171503	156717	156717	171503	171503	171503	171503	171503	171503	171503	171503	171503	171503	171621	171621	171621	171621	171621	171621	171621	171621	171621											
Sample Type			N	N	N	N	REP	N	N	N	N	N	N	N	N	N	REP	N	N	N	N	N	N	N	N	N	N	N											
Parameters	**Unit**	**PQL**																																					
TRH C6 - C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	nt	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25					**650**	**2600**	0	0	N/A	N/A	N/A
TRH C6 - C10	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	nt	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25							0	0	N/A	N/A	N/A
FRACTION 1	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	nt	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25		**50**			**180**				0	0	N/A	N/A	N/A
TRH C10 - C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	nt	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50							0	0	N/A	N/A	N/A
TRH C15 - C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	nt	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100							0	0	N/A	N/A	N/A
TRH C29 - C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	nt	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100							0	0	N/A	N/A	N/A
TRH C10-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	nt	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100						**10,000**	**40,000**	0	0	N/A	N/A	N/A
TRH >C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	nt	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50							0	0	N/A	N/A	N/A
FRACTION 2	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	nt	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		**280**			**120**				0	0	N/A	N/A	N/A
TRH >C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	nt	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100					**1300**			0	0	N/A	N/A	N/A
TRH >C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	nt	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100					**5600**			0	0	N/A	N/A	N/A
Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		**0.7**			**65**		**10**	**40**	0	0	N/A	N/A	N/A
Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	nt	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		**480**			**105**		**288**	**1152**	0	0	N/A	N/A	N/A
Ethylbenzene	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					**125**		**600**	**2400**	0	0	N/A	N/A	N/A
m+p-xylene	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	nt	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2									0	0	N/A	N/A	N/A
o-Xylene	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	nt	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1									0	0	N/A	N/A	N/A
Xylenes	mg/kg	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	nt	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		**110**			**45**		**1000**	**4000**	0	0	N/A	N/A	N/A
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt		**5**	**170**						0.1	0.1	0.1	N/A	N/A
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	0.2	nt	<0.1	0.2	nt	0.1	nt	nt	<0.1	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0.2	0.1	0.17	0.06	0.26
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Phenanthrene	mg/kg	0.1	<0.1	0.9	0.3	<0.1	0.1	<0.1	nt	0.6	nt	<0.1	0.3	nt	1	nt	nt	<0.1	<0.1	<0.1	nt	1.2	nt	nt	0.1	<0.1	0.2	nt									1	0.1	0.53	0.36	0.83
Anthracene	mg/kg	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	nt	0.2	nt	<0.1	0.1	nt	0.3	nt	nt	<0.1	<0.1	<0.1	nt	0.2	nt	nt	<0.1	<0.1	0.1	nt									0.3	0.1	0.20	0.08	0.30
Fluoranthene	mg/kg	0.1	0.1	1.4	0.5	0.3	0.3	<0.1	nt	1.6	nt	<0.1	1.1	nt	1.2	nt	nt	<0.1	<0.1	<0.1	nt	3.4	nt	nt	0.7	<0.1	0.4	nt									1.6	0.1	0.81	0.58	1.20
Pyrene	mg/kg	0.1	0.1	1.3	0.5	0.3	0.4	<0.1	nt	1.6	nt	<0.1	1.2	nt	1.3	nt	nt	<0.1	<0.1	<0.1	nt	3.3	nt	nt	0.7	<0.1	0.5	nt									1.6	0.1	0.84	0.57	1.22
Benzo(a)anthracene	mg/kg	0.1	<0.1	0.6	0.2	0.1	0.1	<0.1	nt	0.7	nt	<0.1	0.5	nt	0.6	nt	nt	<0.1	<0.1	<0.1	nt	1	nt	nt	0.2	<0.1	0.2	nt									0.7	0.1	0.40	0.26	0.59
Chrysene	mg/kg	0.1	<0.1	0.4	0.2	0.1	0.2	<0.1	nt	0.6	nt	<0.1	0.5	nt	0.5	nt	nt	<0.1	<0.1	<0.1	nt	1.1	nt	nt	0.3	<0.1	0.2	nt									0.6	0.1	0.36	0.19	0.50
Benzo(b+k)fluoranthene	mg/kg	0.2	<0.2	0.8	0.4	0.3	0.3	<0.2	nt	1	nt	<0.2	1	nt	0.7	nt	nt	<0.2	<0.2	<0.2	nt	2	nt	nt	0.4	<0.2	0.3	nt									1	0.3	0.64	0.31	0.87
Benzo(a)pyrene	mg/kg	0.05	<0.05	0.55	0.2	0.1	0.1	<0.05	nt	0.7	nt	<0.05	0.64	nt	0.4	nt	nt	<0.05	<0.05	<0.05	nt	**1.4**	nt	nt	0.3	<0.05	0.2	nt		**0.8**	**3.2**		**0.7**		**0.8**	**3.2**	0.7	0.1	0.38	0.25	0.57
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.3	0.1	<0.1	0.1	<0.1	nt	0.4	nt	<0.1	0.4	nt	0.2	nt	nt	<0.1	<0.1	<0.1	nt	0.9	nt	nt	0.2	<0.1	0.1	nt									0.4	0.1	0.25	0.14	0.36
Dibenz(a,h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	0.4	0.2	0.1	0.1	<0.1	nt	0.6	nt	<0.1	0.5	nt	0.3	nt	nt	<0.1	<0.1	<0.1	nt	1.1	nt	nt	0.3	<0.1	0.2	nt									0.6	0.1	0.31	0.20	0.46
Benzo(a)pyrene TEQ	mg/kg	0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	nt	0.9	nt	<0.5	0.8	nt	0.6	nt	nt	<0.5	<0.5	<0.5	nt	1.8	nt	nt	<0.5	<0.5	<0.5	nt		**3**							0.9	0.6	0.75	0.13	0.90
Total +ve	mg/kg	-	0.2	7.1	2.6	1.4	1.8	<0.05	nt	8.5	nt	<0.05	6.5	nt	6.6	nt	nt	<0.05	<0.05	<0.05	nt	16	nt	nt	3.2	<0.05	2.3	nt		**300**					**200**	**800**	8.5	0.2	4.34	3.16	6.46
HCB	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt		**10**							0	0	N/A	N/A	N/A
alpha-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
gamma-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
beta-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt		**6**							0	0	N/A	N/A	N/A
delta-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Heptachlor Epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
gamma-Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
alpha-chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Endosulfan I	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt		**270**					**60**	**240**	0	0	N/A	N/A	N/A
pp-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Dieldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Endrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
pp-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Endosulfan II	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
pp-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt				**180**					0	0	N/A	N/A	N/A
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Endosulfan Sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt		**300**							0	0	N/A	N/A	N/A
Azinphos-methyl (Guthion)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Bromophos-ethyl	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Chlorpyriphos	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt						**4**	**16**	0	0	N/A	N/A	N/A
Chlorpyriphos-methyl	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Diazinon	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Dichlorvos	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Dimethoate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Ethion	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Fenitrothion	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Malathion	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Parathion	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Ronnel	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1016	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1221	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1232	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1242	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1248	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt									0	0	N/A	N/A	N/A
Total PCBs	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt						**<50**	**<50**	0	0	N/A	N/A	N/A
Arsenic	mg/kg	4	4	6	8	6	6	7	nt	9	nt	11	8	nt	9	nt	nt	4	nt	11	nt	5	nt	nt	10	<4	10	nt		**100**		**100**			**100**	**400**	11.0	4.0	7.4	2.4	8.64
Cadmium	mg/kg	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	nt	<0.4	nt	<0.4	<0.4	nt	<0.4	nt	nt	<0.4	nt	<0.4	nt	<0.4	nt	nt	<0.4	<0.4	<0.4	nt		**20**					**20**	**80**	0	0	N/A	N/A	N/A
Chromium	mg/kg	1	14	23	12	15	18	7	nt	19	nt	10	20	nt	14	nt	nt	11	nt	11	nt	12	nt	nt	13	11	18	nt		**100**		**400**					23.0	7.0	14.5	4.7	16.9
Copper	mg/kg	1	34	56	35	32	32	12	nt	53	nt	36	37	nt	33	nt	nt	41	nt	36	nt	34	nt	nt	20	57	38	nt		**6000**		**210**					56.0	12.0	36.4	11.0	42.1
Lead	mg/kg	1	15	13	14	14	15	8	nt	23	nt	23	15	nt	23	nt	nt	19	nt	16	nt	18	nt	nt	15	18	25	nt		**300**		**1100**			**100**	**400**	23.0	8.0	16.5	4.6	18.9
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	nt	<0.1	nt	<0.1	<0.1	nt	<0.1	nt	nt	<0.1	nt	<0.1	nt	<0.1	nt	nt	<0.1	<0.1	<0.1	nt		**40**					**4**	**16**	0	0	N/A	N/A	N/A
Nickel	mg/kg	1	16	20	14	26	23	2	nt	22	nt	18	29	nt	18	nt	nt	20	nt	19	nt	10	nt	nt	15	19	21	nt		**400**		**270**			**40**	**160**	29.0	2.0	18.9	6.7	22.4
Zinc	mg/kg	1	68	63	66	60	51	12	nt	130	nt	72	59	nt	76	nt	nt	79	nt	72	nt	130	nt	nt	48	88	74	nt		**7400**		**700**					130.0	12.0	67.3	26.4	81.0
Total Organic Carbon	mg/kg	1000	nt	nt	nt	nt	nt	nt	2,900	nt	1500	nt	nt	3,200	nt	14000	14000	nt	2800	nt	3900	nt	14000	nt	nt	nt	nt	4600													
Total Organic Carbon	% w/w	0.001	nt	nt	nt	nt	nt	nt	0.0029	nt	0.0015	nt	nt	0.0032	nt	0.014	0.014	nt	0.0028	nt	0.0039	nt	0.014	nt	nt	nt	nt	0.0046

Table 10: Groundwater Analytical Results

Sample Location			BH02		BH03		NEPM (2013) GIL - Fresh Waters [1]	NEPM (2013) GIL - Marine Waters [2]
Date Sampled			27-Jul-17	27-Jul-17	27-Jul-17	27-Jul-17		
Laboratory report			172229	172229	172229	172229		
Sample Type			N	REP	N	REP		
Parameters	**Unit**	**PQL**						
TRH C6 - C9	µg/L	10	<10	nt	<10	<10	-	-
TRH C6 - C10	µg/L	10	<10	nt	<10	<10	-	-
FRACTION 1	µg/L	10	<10	nt	<10	<10	-	-
TRH C10 - C14	µg/L	50	<50	nt	<50	nt	-	-
TRH C15 - C28	µg/L	100	<100	nt	<100	nt	-	-
TRH C29 - C36	µg/L	100	<100	nt	<100	nt	-	-
TRH total C10 - C36	µg/L	100	<100	nt	<100	nt	-	-
TRH >C10-C16	µg/L	50	<50	nt	<50	nt	-	-
FRACTION 2	µg/L	50	<50	nt	<50	nt	-	-
TRH >C16-C34	µg/L	100	<100	nt	<100	nt	-	-
TRH >C34-C40	µg/L	100	<100	nt	<100	nt	-	-
TRH total >C10-C40	µg/L	100	<100	nt	<100	nt	-	-
Benzene	µg/L	1	<1	nt	<1	<1	950	500
Toluene	µg/L	1	<1	nt	<1	<1	-	-
Ethylbenzene	µg/L	1	<1	nt	<1	<1	-	-
m+p-xylene	µg/L	2	<2	nt	<2	<2	-	-
o-Xylene	µg/L	1	<1	nt	1	1	350	-
Xylenes	µg/L	2	<2	nt	<2	<2	-	-
Naphthalene	µg/L	1	<1	nt	<1	nt	16	50
Acenaphthylene	µg/L	1	<1	nt	<1	nt	-	-
Acenaphthene	µg/L	1	<1	nt	<1	nt	-	-
Fluorene	µg/L	1	<1	nt	<1	nt	-	-
Phenanthrene	µg/L	1	<1	nt	<1	nt	-	-
Anthracene	µg/L	1	<1	nt	<1	nt	-	-
Fluoranthene	µg/L	1	<1	nt	<1	nt	-	-
Pyrene	µg/L	1	<1	nt	<1	nt	-	-
Benzo(a)anthracene	µg/L	1	<1	nt	<1	nt	-	-
Chrysene	µg/L	1	<1	nt	<1	nt	-	-
Benzo(b+k)fluoranthene	µg/L	2	<2	nt	<2	nt	-	-
Benzo(a)pyrene	µg/L	1	<1	nt	<1	nt	-	-
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	nt	<1	nt	-	-
Dibenzo(a,h)anthracene	µg/L	1	<1	nt	<1	nt	-	-
Benzo(g,h,i)perylene	µg/L	1	<1	nt	<1	nt	-	-
Benzo(a)pyrene TEQ	µg/L	5	<5	nt	<5	nt	-	-
Total +ve	µg/L	1	NIL (+)VE	nt	NIL (+)VE	nt	-	-
HCB	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
alpha-BHC	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
gamma-BHC	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
beta-BHC	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Heptachlor	µg/L	0.2	<0.2	nt	<0.2	nt	0.01	-

Notes:

nt- not tested

[1]Groundwater investigation levels for Fresh Waters (Schedule B1, NEPM)

[2]Groundwater investigation levels for Marine Waters (Schedule B1, NEPM)

Table 10: Groundwater Analytical Results - Continued

Sample Location			BH02		BH03		NEPM (2013) GIL - Fresh Waters [1]	NEPM (2013) GIL - Marine Waters [2]
Date Sampled			27-Jul-17	27-Jul-17	27-Jul-17	27-Jul-17		
Laboratory report			172229	172229	172229	172229		
Sample Type			N	REP	N	REP		
delta-BHC	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Aldrin	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Heptachlor Epoxide	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
gamma-Chlordane	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
alpha-chlordane	µg/L	0.2	<0.2	nt	<0.2	nt	0.03	-
Endosulfan I	µg/L	0.2	<0.2	nt	<0.2	nt	0.03	0.005
pp-DDE	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Dieldrin	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Endrin	µg/L	0.2	<0.2	nt	<0.2	nt	0.01	0.004
pp-DDD	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Endosulfan II	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
pp-DDT	µg/L	0.2	<0.2	nt	<0.2	nt	0.006	-
Endrin Aldehyde	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Endosulfan Sulphate	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Methoxychlor	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Azinphos-methyl (Guthion)	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Bromophos-ethyl	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Chlorpyriphos	µg/L	0.2	<0.2	nt	<0.2	nt	0.01	0.009
Chlorpyriphos-methyl	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Diazinon	µg/L	0.2	<0.2	nt	<0.2	nt	0.01	-
Dichlorvos	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Dimethoate	µg/L	0.2	<0.2	nt	<0.2	nt	0.15	-
Ethion	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Fenitrothion	µg/L	0.2	<0.2	nt	<0.2	nt	0.2	-
Malathion	µg/L	0.2	<0.2	nt	<0.2	nt	0.05	-
Parathion	µg/L	0.2	<0.2	nt	<0.2	nt	0.004	-
Ronnel	µg/L	0.2	<0.2	nt	<0.2	nt	-	-
Aroclor 1016	µg/L	2	<2	nt	<2	nt	-	-
Aroclor 1221	µg/L	2	<2	nt	<2	nt	-	-
Aroclor 1232	µg/L	2	<2	nt	<2	nt	-	-
Aroclor 1242	µg/L	2	<2	nt	<2	nt	0.3	-
Aroclor 1248	µg/L	2	<2	nt	<2	nt	-	-
Aroclor 1254	µg/L	2	<2	nt	<2	nt	0.01	-
Aroclor 1260	µg/L	2	<2	nt	<2	nt	-	-
PCBs	µg/L	2	<2	nt	<2	nt	-	-
Arsenic	µg/L	1	<1	<1	<1	nt	24	-
Cadmium	µg/L	0.1	0.2	0.2	0.1	nt	0.2	0.7
Chromium	µg/L	1	<1	<1	<1	nt	-	27
Copper	µg/L	1	**3**	**3**	1	nt	1.4	1.3
Lead	µg/L	1	<1	<1	<1	nt	3.4	4.4
Mercury	µg/L	0.05	<0.05	<0.05	<0.05	nt	0.06	0.1
Nickel	µg/L	1	**48**	**47**	**38**	nt	11	7
Zinc	µg/L	1	**48**	**47**	**49**	nt	8	15

Notes:

nt- not tested

[1]Groundwater investigation levels for Fresh Waters (Schedule B1, NEPM)

[2]Groundwater investigation levels for Marine Waters (Schedule B1, NEPM)

Table 11: Photoionisaton Detecter (PID) Screening Results

Depth (mbgl)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
Borehole Location ID	**PID Screening Results (ppm)**																	
BH1	0.9	0.9	1.0	0.8	1.1	0.5	0.9	0.9	1.1	4.8	0.9	-	-	-	-	-	-	-
BH2	1.5	1.4	1.2	0.9	1.0	1.1	0.7	2.0	2.2	2.1	2.1	-	1.6	1.5	1.5	2.0	1.7	1.9
BH3	1.2	0.8	0.7	1.0	1.2	1.1	0.9	1.0	1.2	1.3	2.2	1.0	1.3	1.3	1.9	-	-	-
BH4	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.2	-	-	-
BH5	0.1	0.2	0.1	0.1	0.1	0.0	0.4	0.5	0.3	0.1	0.2	0.4	0.2	0.2	0.1	0.1	-	-
BH6	1.2	1.1	1.3	1.5	1.2	0.7	0.8	0.7	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	-	-
BH7	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.3	0.7	0.5	-	-	-
BH8	1.1	1.2	0.6	1.0	0.9	0.8	0.8	0.6	1.0	0.8	0.8	0.6	0.7	0.6	0.6	1.3	-	-
BH9	0.2	0.2	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.3	0.3	0.3	-	-	-
BH10	0.5	0.4	0.6	0.6	0.5	0.8	1.1	0.9	1.1	1.0	1.0	0.8	0.4	0.9	0.7	0.7	-	-
BH11	0.2	0.7	0.3	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.5	0.7	0.6	0.6	0.9	-	-
BH12	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.3	0.8	1.2	0.7	0.8	0.9	0.8	-	-	-	-
BH13	0.2	0.2	0.3	0.3	0.4	0.8	0.5	0.8	0.8	0.7	0.3	0.6	0.7	0.7	0.7	-	-	-
BH14	0.0	0.2	0.1	0.1	0.4	0.2	0.3	0.5	0.3	0.2	0.3	0.3	0.3	0.1	0.1	0.2	-	-
BH15	0.3	0.4	0.5	0.2	0.3	0.3	0.2	0.3	0.4	0.2	0.2	0.0	0.4	0.5	0.5	0.5	-	-

Appendix A
Photographic Log

Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

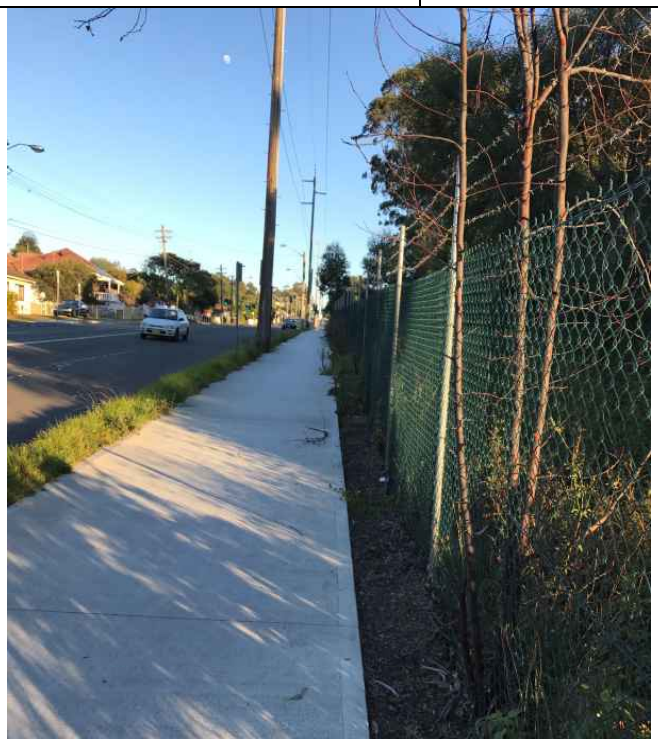
Date:	Plate No:
13/07/2017	1

Description:

Fenced southern boundary of site (right) bordered by footpath and Brunker Road (left).

Direction Photo Taken:

West



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	2

Description:
Eastern boundary of the site, Graf Avenue (right) and the Potts Hill NSW Police Facility (left) in background. Eastern Embankment shown to the west of the fenced boundary.

Direction Photo Taken:

North



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

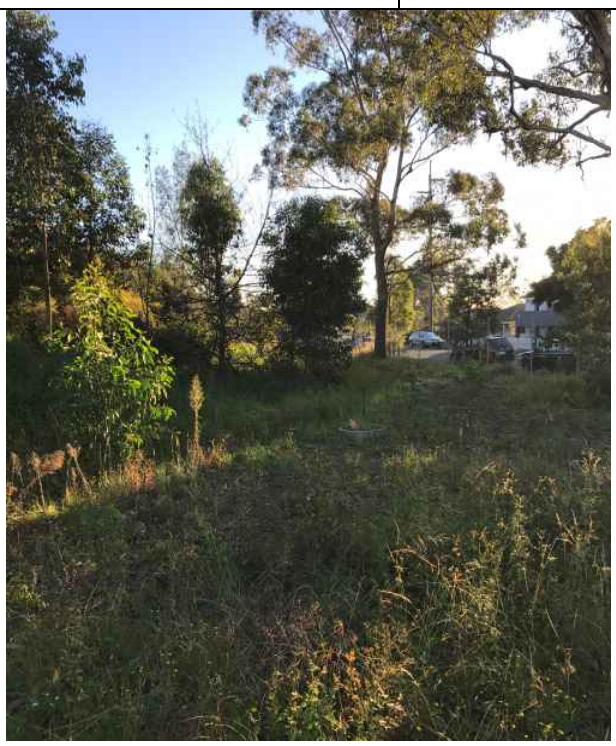
Date:	Plate No:
13/07/2017	3

Description:

South-eastern corner of the site with Graf Avenue shown in the background (right). Sydney Water Corporation sewer maintenance hole shown in the centre of the site (one of two located in the south-eastern corner). Embankment shown in background (left).

Direction Photo Taken:

North-northeast



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	4

Description:
Gated entry to the southern portion of the site via Nelson Short Street. Asphalt condition considered poor in areas of hardstand towards the entry to the site.

Direction Photo Taken:

East-southeast



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	5

Description:

South-eastern corner of site. Asphalt hardstand in generally good condition.

Direction Photo Taken:

East-southeast



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	6

Description:
Western boundary of southern portion of site. Nelson Short Street (left) and Potts Hill NSW Police Facility (centre) in background. Vegetation appears healthy.

Direction Photo Taken:

North



CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	7

Description:
Low vegetated concrete wall dividing southern (right) and northern (left) portion of the site. Vista of residential suburb of Yagoona.

Direction Photo Taken:

East



CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Heymann-Cohen Pty Ltd	18 Randwick Close, Casula New South Wales	CES161003-HC

Date:	Plate No:
24/11/16	8

Description:
Western boundary of northern portion of site. Potts Hill NSW Police Facility in background.

Direction Photo Taken:

North



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	9

Description:
Gated entry for the northern portion of the site. Rubble of concrete and bricks in foreground and Nelson Short Street in background.

Direction Photo Taken:

Northwest



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	10

Description:
Northern boundary of site facing the east. Fencing materials in centre of photograph and housing of residential suburb of Yagoona in background.

Direction Photo Taken:

East



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	11

Description:
2m x 2m concrete cased drain (potentially stormwater) located in the north-eastern corner of the site. Eastern Embankment in background.

Direction Photo Taken:

East



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	12

Description:
Northern boundary of site facing the east. Fencing materials in centre of photograph and housing of residential suburb of Yagoona in background.

Direction Photo Taken:

East



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	13

Description:
Eastern Embankment in foreground and Graf Avenue in background.

Direction Photo Taken:

Northeast



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	14

Description:
Southern portion of the site featuring the eastern Embankment in foreground (right) and the Potts Hill NSW Police Facility in background.

Direction Photo Taken:

North



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	15

Description:
2m x 2m concrete cased drain (potentially stormwater) located in the south-eastern corner of the site.

Direction Photo Taken:

South



Photographic Log

Client Name:	Site Location:	Project Number:
Mushan Group Pty Ltd	10 Nelson Short Street, Potts Hill, New South Wales	CES170303-SD

Date:	Plate No:
13/07/2017	16

Description:
Southern boundary of the main area of the site. Entry to southern portion in background (centre).

Direction Photo Taken:

West



Appendix B
Lot Search

Environmental Risk and Planning Report

10 Nelson Short Street, Potts Hill, NSW 2143

Report Date: **13 Jul 2017 08:37:00**

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

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Ecological Constraints 77
Terms & Conditions 82

Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
1	Georeferenced to the site location / premise or part of site
2	Georeferenced with the confidence of the general/approximate area
3	Georeferenced to the road or rail
4	Georeferenced to the road intersection
5	Feature is a buffered point
6	Land adjacent to Georeferenced Site
7	Georeferenced to a network of features

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	Land and Property Information	13/07/2017	13/07/2017	Daily	-	-	-	-
Topographic Data	Land and Property Information	10/04/2015	01/04/2015	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	22/06/2017	13/06/2017	Monthly	1000	0	0	6
Contaminated Land: Records of Notice	Environment Protection Authority	22/06/2017	22/06/2017	Monthly	1000	0	0	1
Former Gasworks	Environment Protection Authority	22/06/2017	16/01/2017	Monthly	1000	0	0	0
National Waste Management Site Database	Geoscience Australia	07/03/2017	15/11/2012	Quarterly	1000	0	0	2
EPA PFAS Investigation Program	Environment Protection Authority	22/06/2017	22/06/2017	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	22/06/2017	22/06/2017	Quarterly	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	13/06/2017	13/06/2017	Monthly	1000	0	0	14
Delicensed POEO Activities still Regulated by the EPA	Environment Protection Authority	13/06/2017	13/06/2017	Monthly	1000	0	0	3
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	13/06/2017	13/06/2017	Monthly	1000	1	2	9
UPSS Environmentally Sensitive Zones	Department of Environment, Climate Change and Water (NSW)	14/04/2015	12/01/2010	As required	1000	0	0	0
UBD Business to Business Directory 1991 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1991 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business to Business Directory 1986 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business to Business Directory 1986 (Road & Area Matches)	Hardie Grant			Not required	150	-	2	2
UBD Business Directory 1982 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	2	2
UBD Business Directory 1982 (Road & Area Matches)	Hardie Grant			Not required	150	-	3	3
UBD Business Directory 1978 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	1	1
UBD Business Directory 1978 (Road & Area Matches)	Hardie Grant			Not required	150	-	3	3
UBD Business Directory 1975 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1975 (Road & Area Matches)	Hardie Grant			Not required	150	-	3	3
UBD Business Directory 1970 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1970 (Road & Area Matches)	Hardie Grant			Not required	150	-	6	6
UBD Business Directory 1965 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1965 (Road & Area Matches)	Hardie Grant			Not required	150	-	9	9
UBD Business Directory 1950 (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directory 1950 (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	1000	0	0	67
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	1000	-	5	55
Points of Interest	Land and Property Information	01/02/2017	01/02/2017	Annually	1000	0	0	26

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Tanks (Areas)	Land and Property Information	01/02/2017	01/02/2017	Annually	1000	0	1	2
Tanks (Points)	Land and Property Information	01/02/2017	01/02/2017	Annually	1000	0	0	2
Major Easements	Land and Property Information	01/02/2017	01/02/2017	As required	1000	0	0	1
State Forest	Land and Property Information	01/02/2017	29/06/2016	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment and Heritage	01/02/2017	31/12/2016	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Groundwater Boreholes	NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation; Commonwealth of Australia (Bureau of Meteorology) 2015	21/03/2016	01/12/2015	Annually	2000	0	0	21
Geological Units 1:100,000	NSW Department of Industry, Resources & Energy	20/08/2014		None planned	1000	1	-	2
Geological Structures 1:100,000	NSW Department of Industry, Resources & Energy	20/08/2014		None planned	1000	0	-	0
Naturally Occurring Asbestos Potential	NSW Department of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Soil Landscapes	NSW Office of Environment and Heritage	12/08/2014		None planned	1000	2	-	4
Standard Local Environmental Plan Acid Sulfate Soils	NSW Planning and Environment	07/10/2016	07/10/2016	As required	500	0	-	-
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	0	0	0
Dryland Salinity Potential of Western Sydney	NSW Office of Environment and Heritage	12/05/2017	01/01/2002	None planned	1000	2	2	5
Mining Subsidence Districts	Land and Property Information	05/07/2017	01/07/2017	As required	1000	0	0	0
SEPP 14 - Coastal Wetlands	NSW Planning and Environment	17/12/2015	24/10/2008	Annually	1000	0	0	0
SEPP 26 - Littoral Rainforest	NSW Planning and Environment	17/12/2015	05/02/1988	Annually	1000	0	0	0
SEPP 71 - Coastal Protection	NSW Planning and Environment	17/12/2015	01/08/2003	Annually	1000	0	0	0
SEPP Major Developments 2005	NSW Planning and Environment	09/03/2013	25/05/2005	Under Review	1000	1	1	1
SEPP Strategic Land Use Areas	NSW Planning and Environment	06/07/2016	28/01/2014	Annually	1000	0	0	0
Local Environmental Plan - Land Zoning	NSW Planning and Environment	30/06/2017	23/06/2017	Quarterly	1000	1	4	57
Local Environmental Plan - Minimum Subdivision Lot Size	NSW Planning and Environment	30/06/2017	23/06/2017	Quarterly	0	0	-	-
Local Environmental Plan - Height of Building	NSW Planning and Environment	30/06/2017	23/06/2017	Quarterly	0	0	-	-
Local Environmental Plan - Floor Space Ratio	NSW Planning and Environment	30/06/2017	23/06/2017	Quarterly	0	1	-	-
Local Environmental Plan - Land Application	NSW Planning and Environment	30/06/2017	13/04/2017	Quarterly	0	1	-	-
Local Environmental Plan - Land Reservation Acquisition	NSW Planning and Environment	30/06/2017	23/06/2017	Quarterly	0	0	-	-
State Heritage Items	NSW Office of Environment and Heritage	20/04/2017	30/09/2016	Quarterly	1000	0	1	3
Local Heritage Items	NSW Planning and Environment	30/06/2017	16/06/2017	Monthly	1000	0	1	8
Bush Fire Prone Land	NSW Rural Fire Service	28/03/2017	17/02/2017	Quarterly	1000	0	0	0
Native Vegetation of the Sydney Metropolitan Area	NSW Office of Environment and Heritage	01/03/2017	16/12/2016	As required	1000	1	1	9
RAMSAR Wetlands	Commonwealth of Australia Department of the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
ATLAS of NSW Wildlife	NSW Office of Environment and Heritage	13/07/2017	13/07/2017	Daily	10000	-	-	-

Aerial Imagery 2015

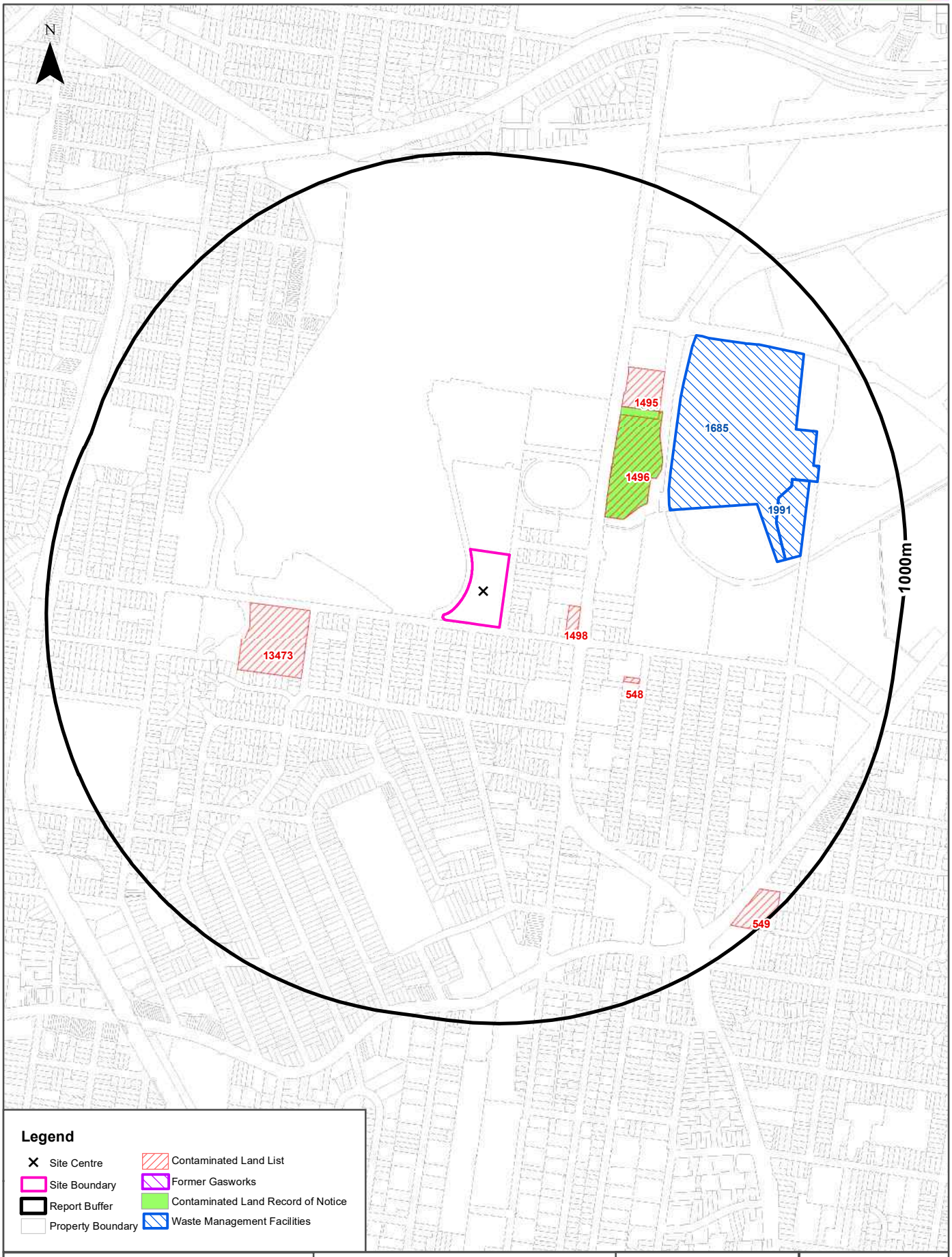
10 Nelson Short Street Potts Hill, NSW 2143



Scale: 0 25 50 100 Meters	Data Sources: Aerial Imagery © 2017 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.	Coordinate System: GDA 1994 MGA Zone 56	Date: 10 July, 2017

Contaminated Land & Waste Management Facilities

10 Nelson Short Street, Potts Hill, NSW 2143



Scale: 0 100 200 400 Meters

Data Sources: Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017

Coordinate System: GDA 1994 MGA Zone 56

Date: 12July 2017

Contaminated Land & Waste Management Facilities

10 Nelson Short Street, Potts Hill, NSW 2143

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist (m)	Direction
1498	Shell Coles Express Service Station	112 Rookwood Road	Yagoona	Service Station	Under assessment	Current EPA List	Premise Match	165m	East
1496	Galserv Galvanising Services	117-153 Rookwood Road	Yagoona	Metal Industry	Contamination currently regulated under CLM Act	Current EPA List	Premise Match	259m	North East
548	Former Plating Works	12 Claremont Street	Greenacre	Unclassified	Regulation under CLM Act not required	Current EPA List	Premise Match	336m	South East
13473	Sydney Water Potts Hill Complex	91 Brunker ROAD	YAGOONA	Other Industry	Under assessment	Current EPA List	Premise Match	336m	West
1495	BP Potts Hill Service Station and Truckstop	155-159 Rookwood ROAD	Yagoona	Service Station	Under assessment	Current EPA List	Premise Match	470m	North East
549	7-Eleven (former Mobil) Service Station	301-305 Hume Highway	Greenacre	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	930m	South East

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.

EPA site management class	Explanation
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Contaminated Land & Waste Management Facilities

10 Nelson Short Street, Potts Hill, NSW 2143

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
344	Galserv Galvanising Services	117-153 Rookwood Road	Yagoona	1 current	3224	Premise Match	259m	North East

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority
Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Landfill	Reprocess	Transfer	Location Confidence	Distance	Direction
1685	Rail Corporation New South Wales	Chullora Recycling Park	Muir Road	Chullora	Not Applicable	Operating	Not Applicable	Premise Match	421m	North East
1991	Veolia Environmental Services (Australia) Pty Ltd	Greenacre Resource Recovery Facility	75 Anzac Street	Greenacre	Not Applicable	Operating	Operating	Premise Match	678m	East

Wate Management Facilities Data Source: Australian Governement Geoscience Australia
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EPA PFAS Investigation Program

10 Nelson Short Street, Potts Hill, NSW 2143

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Id	Site	Address	Location Confidence	Distance	Direction
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

EPA Other Sites with Contamination Issues

10 Nelson Short Street, Potts Hill, NSW 2143

EPA Other SItes with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill

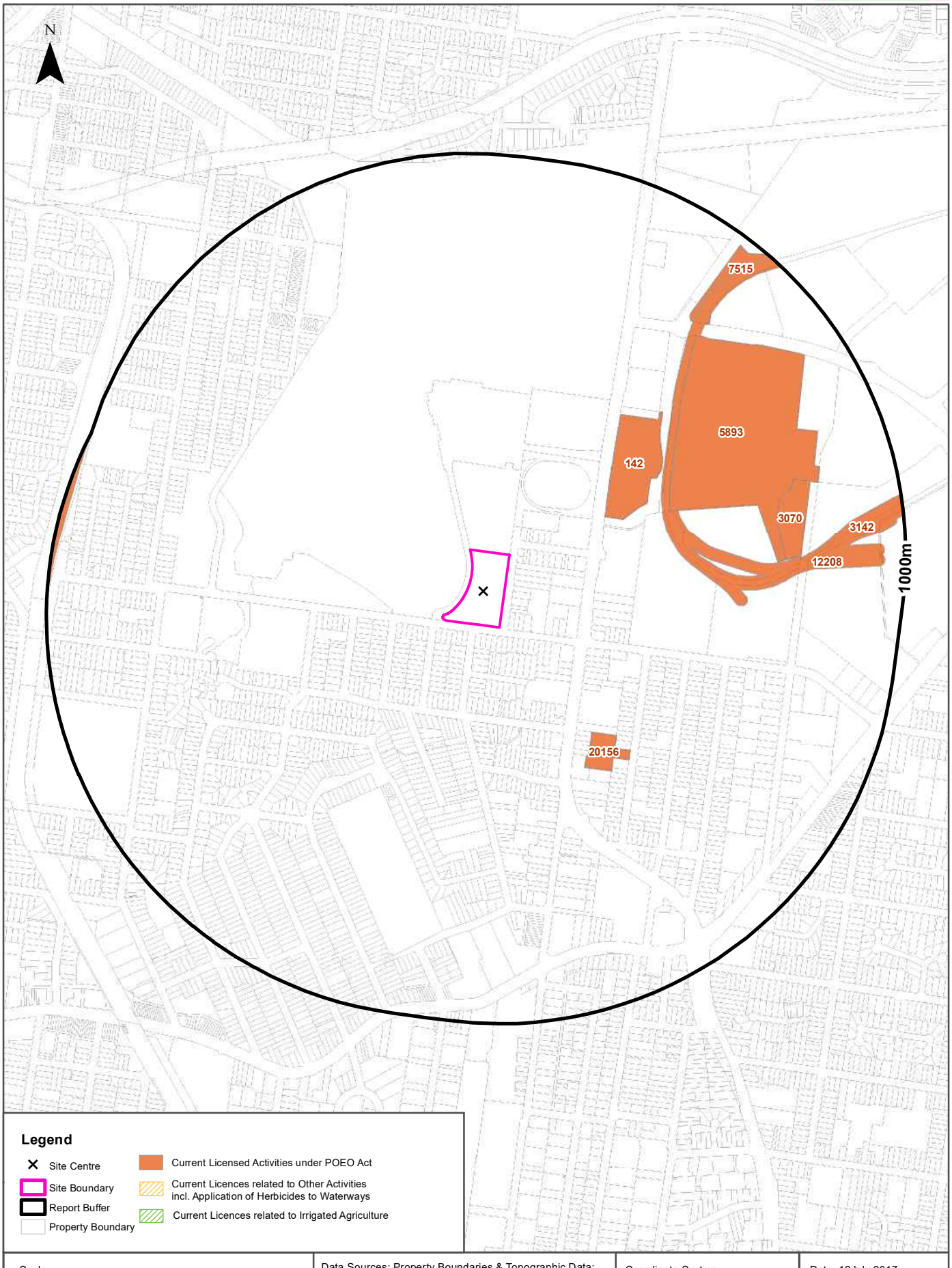
Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Other Sites with Contamination Issues: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Current EPA Licensed Activities

10 Nelson Short Street, Potts Hill, NSW 2143



EPA Activities

10 Nelson Short Street, Potts Hill, NSW 2143

Licensed Activities under the POEO Act 1997

Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

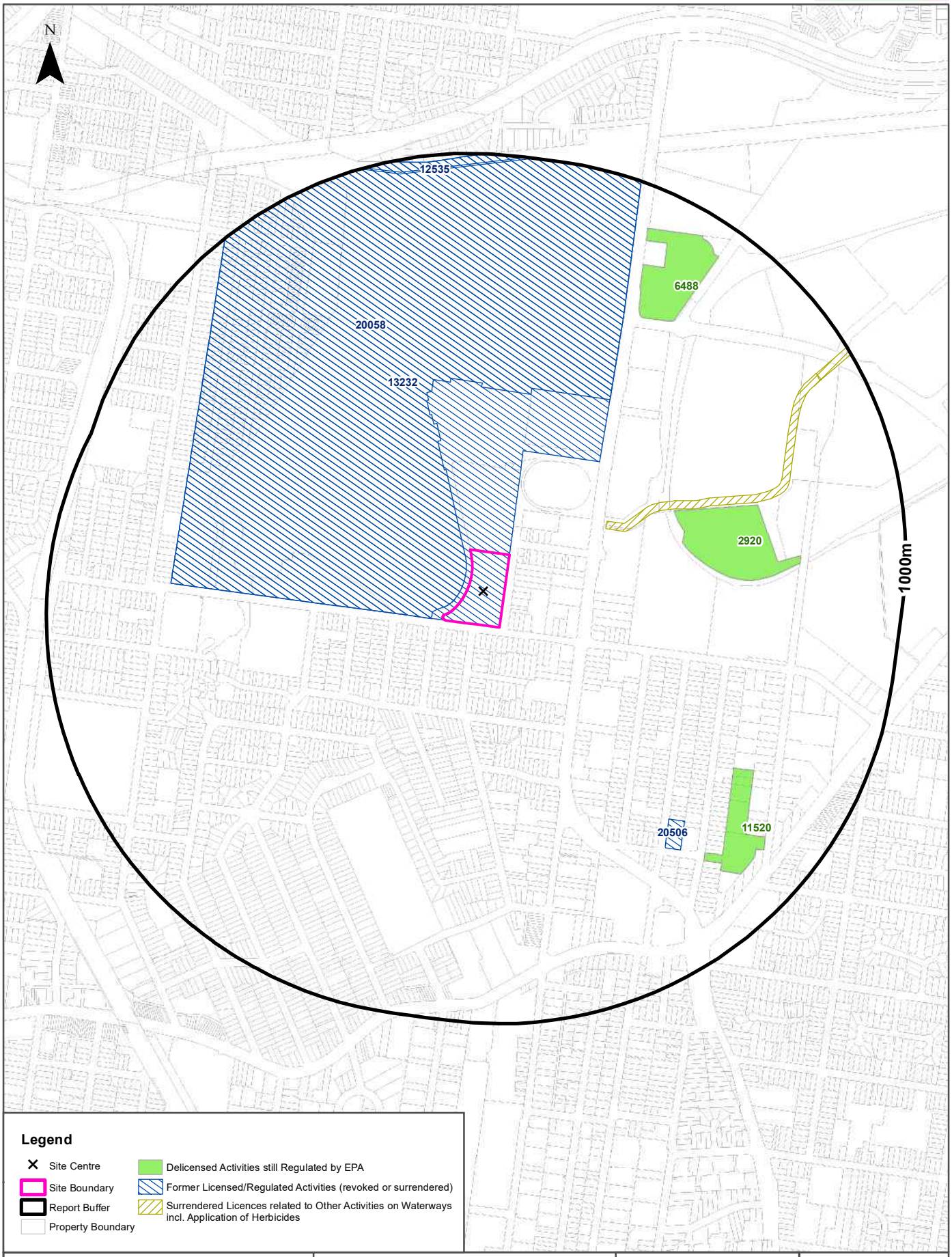
EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
142	GALVANISING SERVICES PTY LTD	GALVANISING SERVICES PTY LTD	135 ROOKWOOD ROAD	YAGOONA	Metal coating	1	259m	North East
20156	CLEANAWAY PTY LTD		44 CLAREMONT AVENUE, GREENACRE, NSW 2190		Recovery of general waste; Waste storage - other types of waste	1	349m	South East
3142	AUSTRALIAN RAIL TRACK CORPORATION LIMITED		GPO BOX 14, SYDNEY, NSW 2001		Railway systems activities	3	399m	East
12208	SYDNEY TRAINS		PO BOX K349, HAYMARKET, NSW 1238		Railway systems activities	3	399m	North
5893	SUEZ RECYCLING & RECOVERY PTY LTD		MUIR ROAD, CHULLORA, NSW 2190		Non-thermal treatment of general waste	1	421m	North East
5893	SUEZ RECYCLING & RECOVERY PTY LTD	CHULLORA RESOURCE RECOVERY PARK	MUIR ROAD	CHULLORA	Composting	1	421m	North East
5893	SUEZ RECYCLING & RECOVERY PTY LTD	CHULLORA RESOURCE RECOVERY PARK	MUIR ROAD	CHULLORA	Recovery of general waste	1	421m	North East
5893	SUEZ RECYCLING & RECOVERY PTY LTD	CHULLORA RESOURCE RECOVERY PARK	MUIR ROAD	CHULLORA	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	1	421m	North East
5893	SUEZ RECYCLING & RECOVERY PTY LTD	CHULLORA RESOURCE RECOVERY PARK	MUIR ROAD	CHULLORA	Waste storage - other types of waste	1	421m	North East
5893	SUEZ RECYCLING & RECOVERY PTY LTD	CHULLORA RESOURCE RECOVERY PARK	MUIR ROAD	CHULLORA	Waste storage - waste tyres	1	421m	North East
3070	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD	Greenacre Resource Recovery Facility	75 ANZAC STREET	GREENACRE	Non-thermal treatment of general waste	1	678m	East
3070	VEOLIA ENVIRONMENTAL SERVICES (AUSTRALIA) PTY LTD	Greenacre Resource Recovery Facility	75 ANZAC STREET	GREENACRE	Waste storage - other types of waste	1	678m	East
7515	SYDNEY TRAINS	BALLAST RECYCLING DEPOT	WORTH STREET GATE 1, CHULLORA, NSW 2190	CHULLORA	Recovery of general waste	1	749m	North East
7515	SYDNEY TRAINS	BALLAST RECYCLING DEPOT	WORTH STREET GATE 1, CHULLORA, NSW 2190	CHULLORA	Waste storage - other types of waste	1	749m	North East

POEO Licence Data Source: Environment Protection Authority

© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

10 Nelson Short Street, Potts Hill, NSW 2143



Data Sources: Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017

Coordinate System: GDA 1994 MGA Zone 56

Date: 13July 2017

EPA Activities

10 Nelson Short Street, Potts Hill, NSW 2143

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
2920	BLUESCOPE STEEL LIMITED	CHULLORA SERVICE CENTRE	73 ANZAC STREET	CHULLORA	Hazardous, Industrial or Group A Waste Generation or Storage	1	429m	East
6488	THE ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS, NEW SOUTH WALES	THE ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS, NEW SOUTH WALES	201 ROOKWOOD RD	YAGOONA	Hazardous, Industrial or Group A Waste Generation or Storage	1	688m	North East
11520	BANKSTOWN CITY COUNCIL	COUNCIL ANZAC STREET DEPOT	1-3 Anzac Street	GREENACRE	Hazardous, Industrial or Group A or Group B Waste Disposal	1	688m	South East

Delicensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

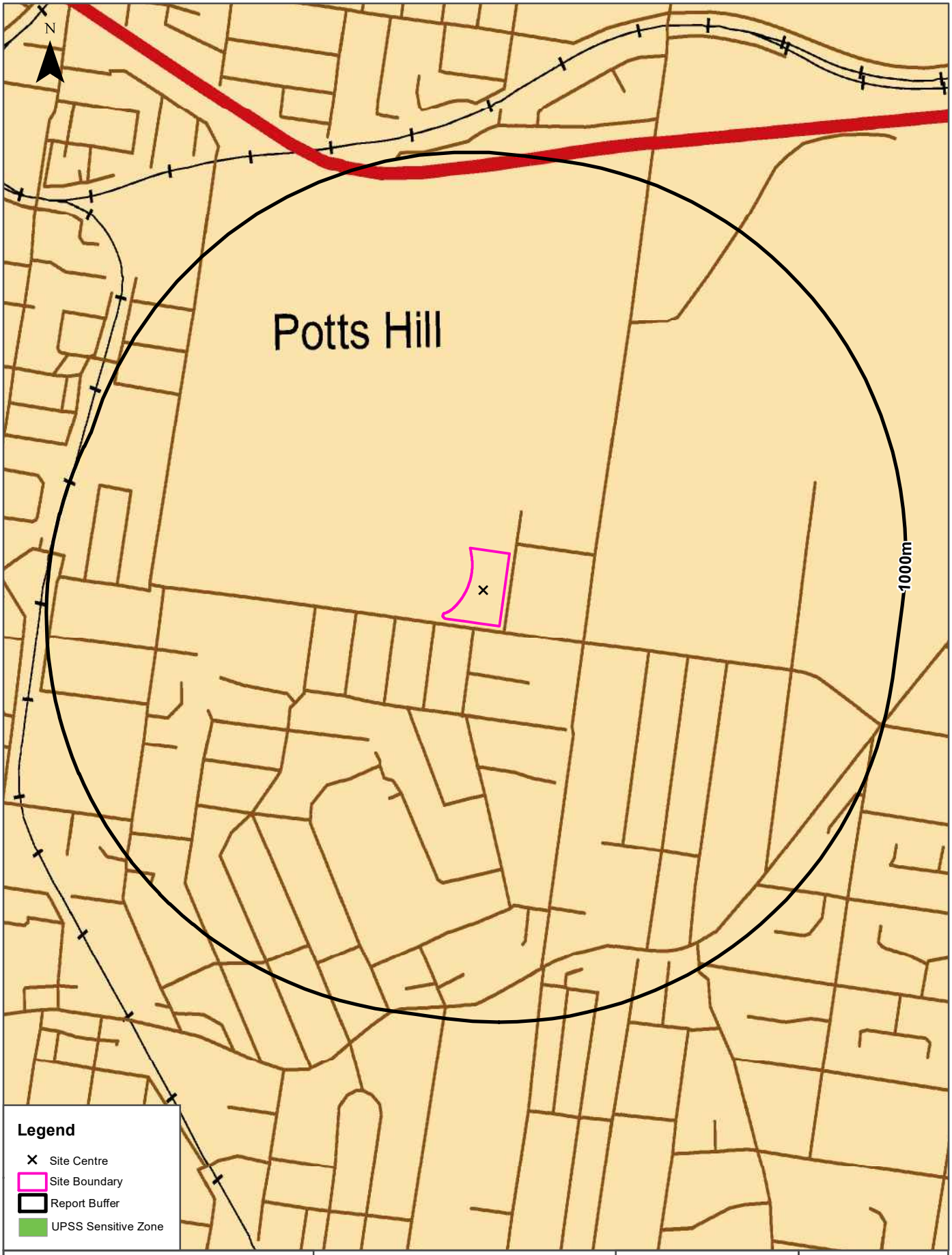
Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
13232	LANDCOM	Potts Hill Reservoir Lands, Brunker Street and Cooper Street, POTTS HILL, NSW 2143	Surrendered	11/02/2010	Land-based extractive activity	1	0m	Onsite
20058	Western Earthmoving Pty Ltd	Potts Hill Reservoirs Site, 146 Rookwood Road, POTTS HILL, NSW 2143	Surrendered	25/01/2012	Land-based extractive activity	1	15m	North
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	7	252m	-
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	7	252m	-
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered		Other Activities / Non Scheduled Activity - Application of Herbicides	7	252m	-
7414	AUBURN COUNCIL	AUBURN MUNICIPAL COUNCIL, AUBURN, NSW 2144	Surrendered	06/09/2000	Other Activities - Application of Herbicide(s)	7	252m	-
7498	BANKSTOWN CITY COUNCIL	-, Waterways throughout Bankstown City Council, BANKSTOWN	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	7	252m	-
20506	RENEW RUBBER PTY LIMITED	, 67 - 77 Beresford Avenue, GREENACRE, NSW 2190,	Revoked	02/04/2015	Recovery of waste tyres, Waste storage - waste tyres	1	645m	South East

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
12535	CPB CONTRACTORS PTY LIMITED	LIVERPOOL-ASHFIELD PIPELINE LOCATED ALONG VARIOUS STREETS FROM LIVERPOOL TO, ASHFIELD, NSW, 2131	Surrendered	25/09/2006	Sewage treatment processing by small plants	1	962m	West

Former Licensed Activities Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

UPSS Sensitive Zones

10 Nelson Short Street, Potts Hill, NSW 2143



Scale: 0 100 200 400 Meters	UPSS Data Source: Environment Protection Authority © Dept of Environment, Climate Change & Water (NSW)	Coordinate System: GDA 1994 MGA Zone 56	Date: 12July 2017

Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1991 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1991 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Organisation	Address	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer					

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1991 Business to Business Directory Records Road or Area Matches

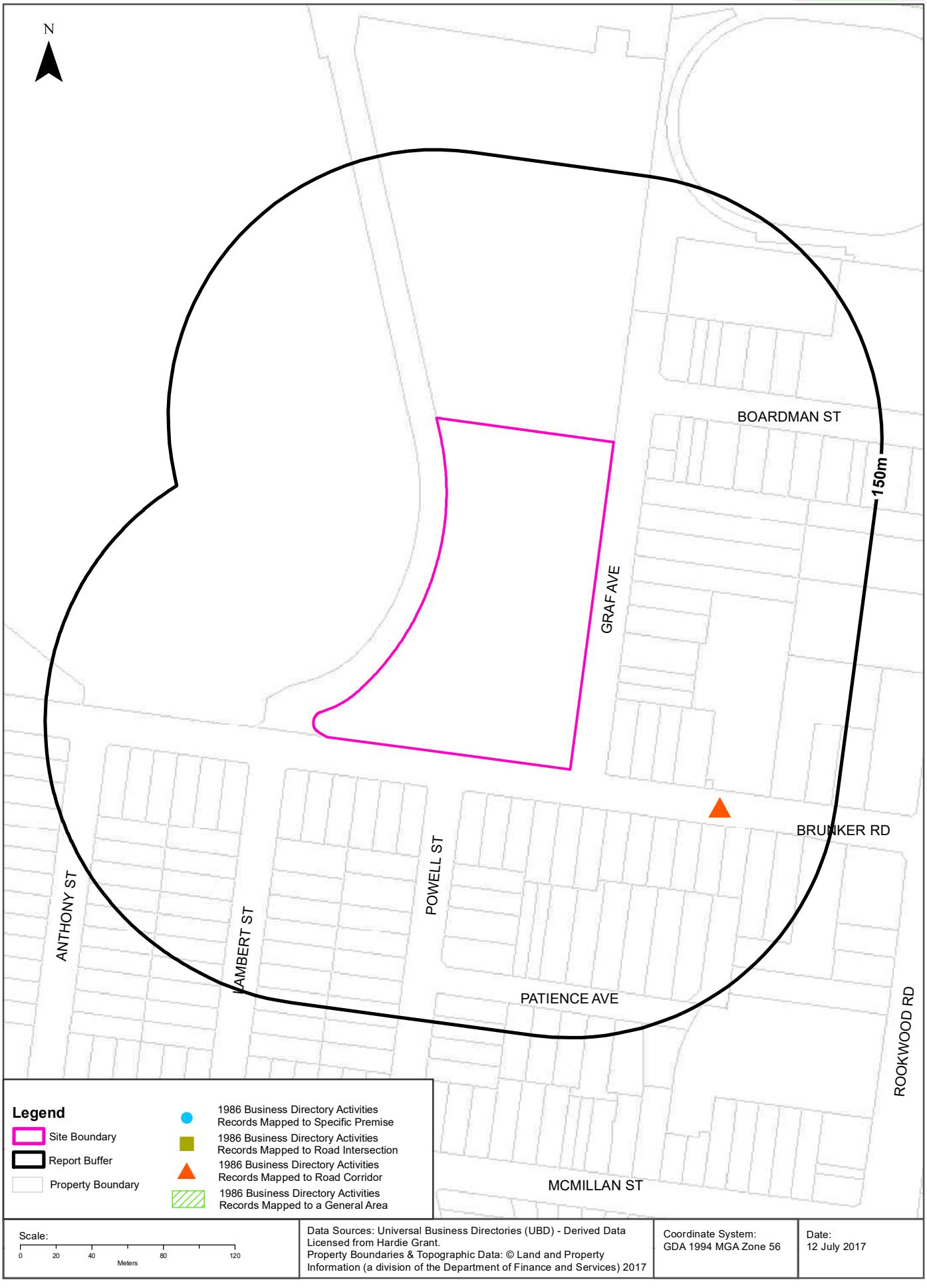
Records from the 1991 UBD Business to Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Organisation	Address	Ref No.	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1986 Historical Business Directory Records

10 Nelson Short Street, Potts Hill, NSW 2143



Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1986 Business to Business Directory Records Premise or Road Intersection Matches

Records from the 1986 UBD Business to Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1986 Business to Business Directory Records Road or Area Matches

Records from the 1986 UBD Business to Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR ACCESSORIES – RETAIL .	Brunker Road Service Station, Brunker Rd., North Bankstown.	60953	Road Match	0m
MOTOR GARAGES & SERVICE STATIONS.	Brunker Road Service Station, Brunker Rd., North Bankstown.	64272	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1982 Historical Business Directory Records

10 Nelson Short Street, Potts Hill, NSW 2143



Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1982 Business Directory Records
Premise or Road Intersection Matches

Records from the 1982 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
ROAD TRANSPORT SERVICES - INTERSTATE, (R5810)	Combined Freight Services Pty. Ltd., 17 Boardman St., Yagoona.2199.	72019	Premise Match	29m	North East
BOOT&/OR SHOE REPAIRERS.(B4760)	Andrews, T. H., 51 Brunker Rd., Yagoona. 2199.	8123	Premise Match	40m	South

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1982 Business Directory Records
Road or Area Matches

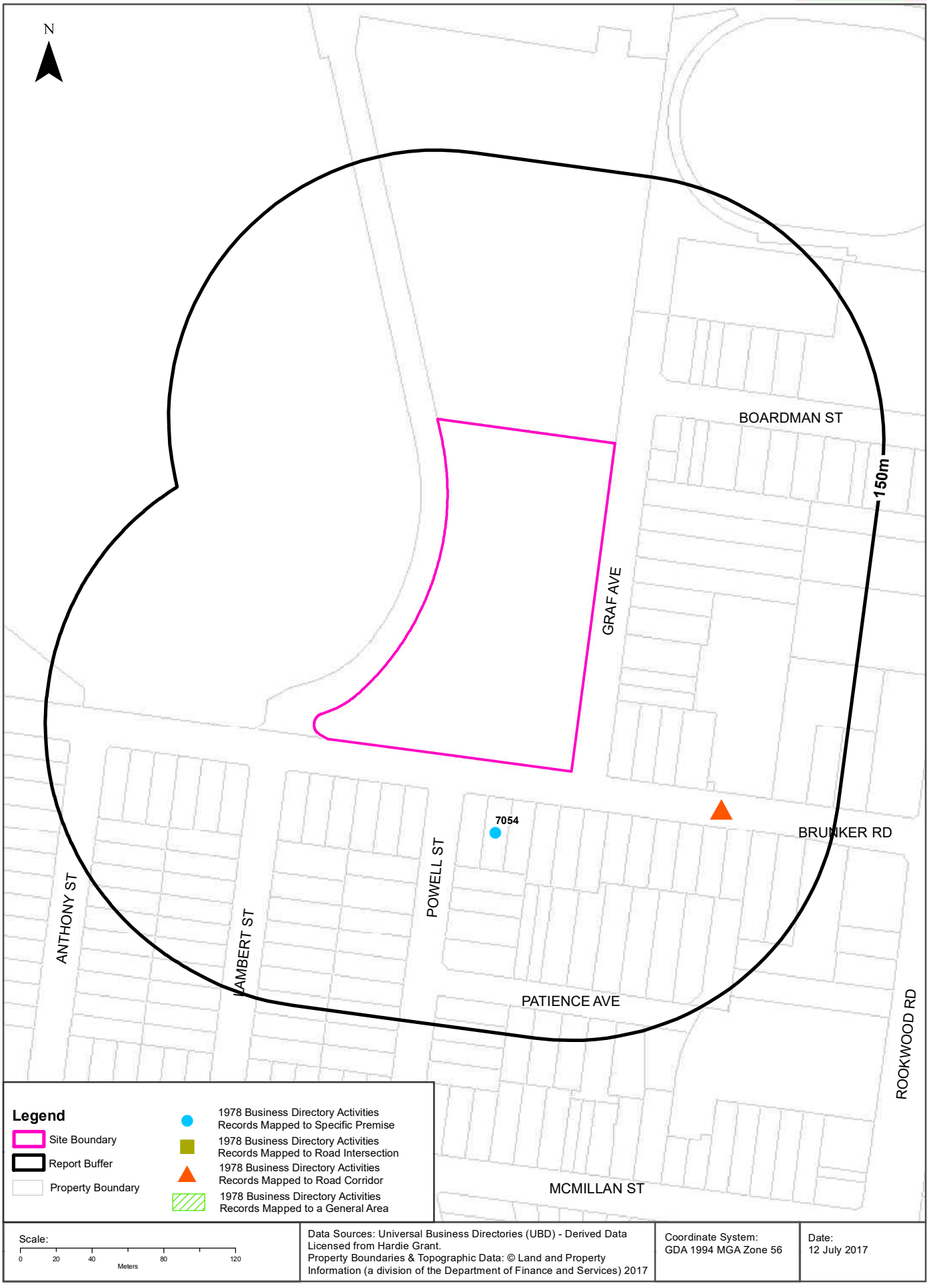
Records from the 1982 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR ACCESSORIES DEALERS.(M4690)	Brunker Road Service Station, Brunker Rd., North Bankstown. 2200.	53741	Road Match	0m
MOTOR CAR &/OR TRUCK DEALERS - NEW &/OR USED. (M5840)	Brunker Road Service Station, Brunker Rd., North Bankstown. 2200.	54709	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Brunker Road Service Station, Brunker Rd., North Bankstown. 2200.	56351	Road Match	0m

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1978 Historical Business Directory Records

10 Nelson Short Street, Potts Hill, NSW 2143



Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1978 Business Directory Records
Premise or Road Intersection Matches

Records from the 1978 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
BOOT &/OR SHOE REPAIRERS.	Andrews, T. H., 51 Brunker Rd.. Yagoona.	7054	Premise Match	40m	South

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1978 Business Directory Records
Road or Area Matches

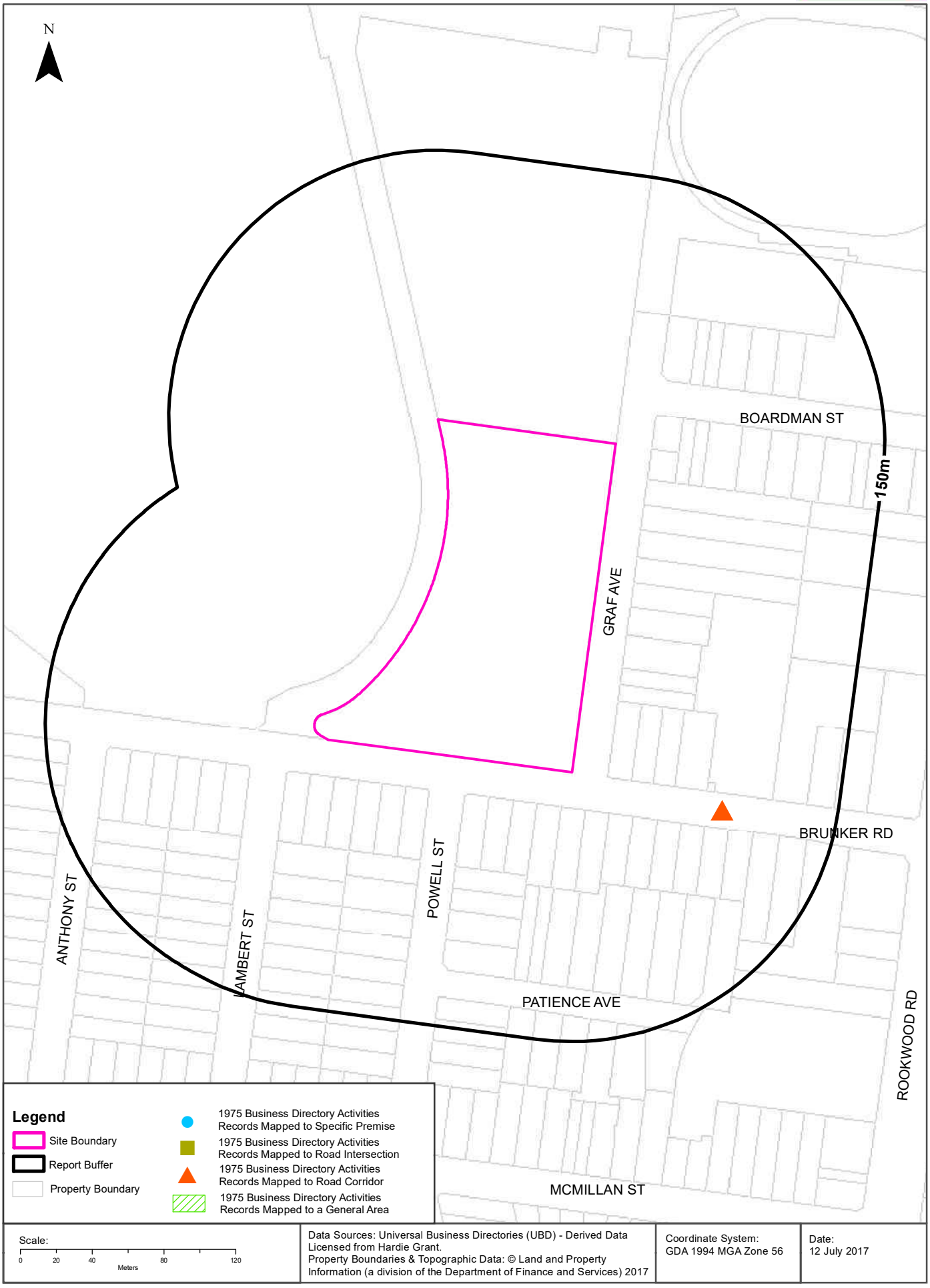
Records from the 1978 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR ACCESSORIES DEALERS.	Brunker Rd. Service Station, Brunker Rd., North Bankstown.	47317	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Brunker Rd. Service Station, Brunker Rd., North Bankstown.	49470	Road Match	0m
MOTORCAR &/ORTRUCK DEALERS-NEW &/OR USED.	Brunker Rd. Service Station, Brunker Rd.. North Bankstown.	48195	Road Match	0m

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1975 Historical Business Directory Records

10 Nelson Short Street, Potts Hill, NSW 2143



Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1975 Business Directory Records
Premise or Road Intersection Matches

Records from the 1975 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1975 Business Directory Records
Road or Area Matches

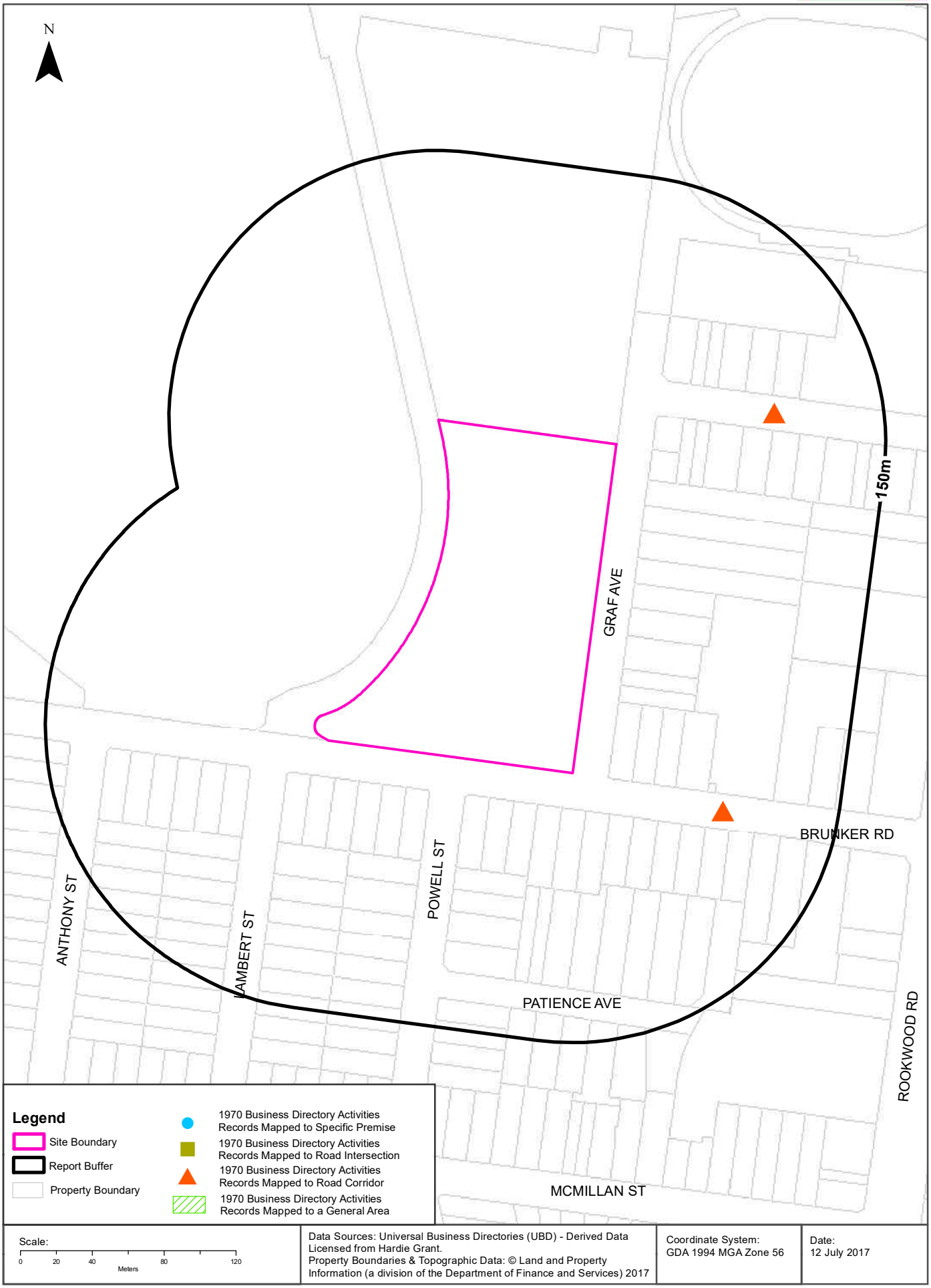
Records from the 1975 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
MOTOR ACCESSORIES DEALERS.	Brunker Rd Service Station. Brunker Rd, North Bankstown.	56113	Road Match	0m
MOTOR SERVICE STATIONS - PETROL, OIL	Brunker Rd. Service Station, Brunker Rd., North Bankstown,	61456	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS.	Brunker Rd. Service Station, Brunker Rd., North Bankstown.	58495	Road Match	0m

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1970 Historical Business Directory Records

10 Nelson Short Street, Potts Hill, NSW 2143



Data Sources: Universal Business Directories (UBD) - Derived Data Licensed from Hardie Grant.
Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017

Coordinate System: GDA 1994 MGA Zone 56

Date: 12 July 2017

Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1970 Business Directory Records
Premise or Road Intersection Matches

Records from the 1970 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1970 Business Directory Records
Road or Area Matches

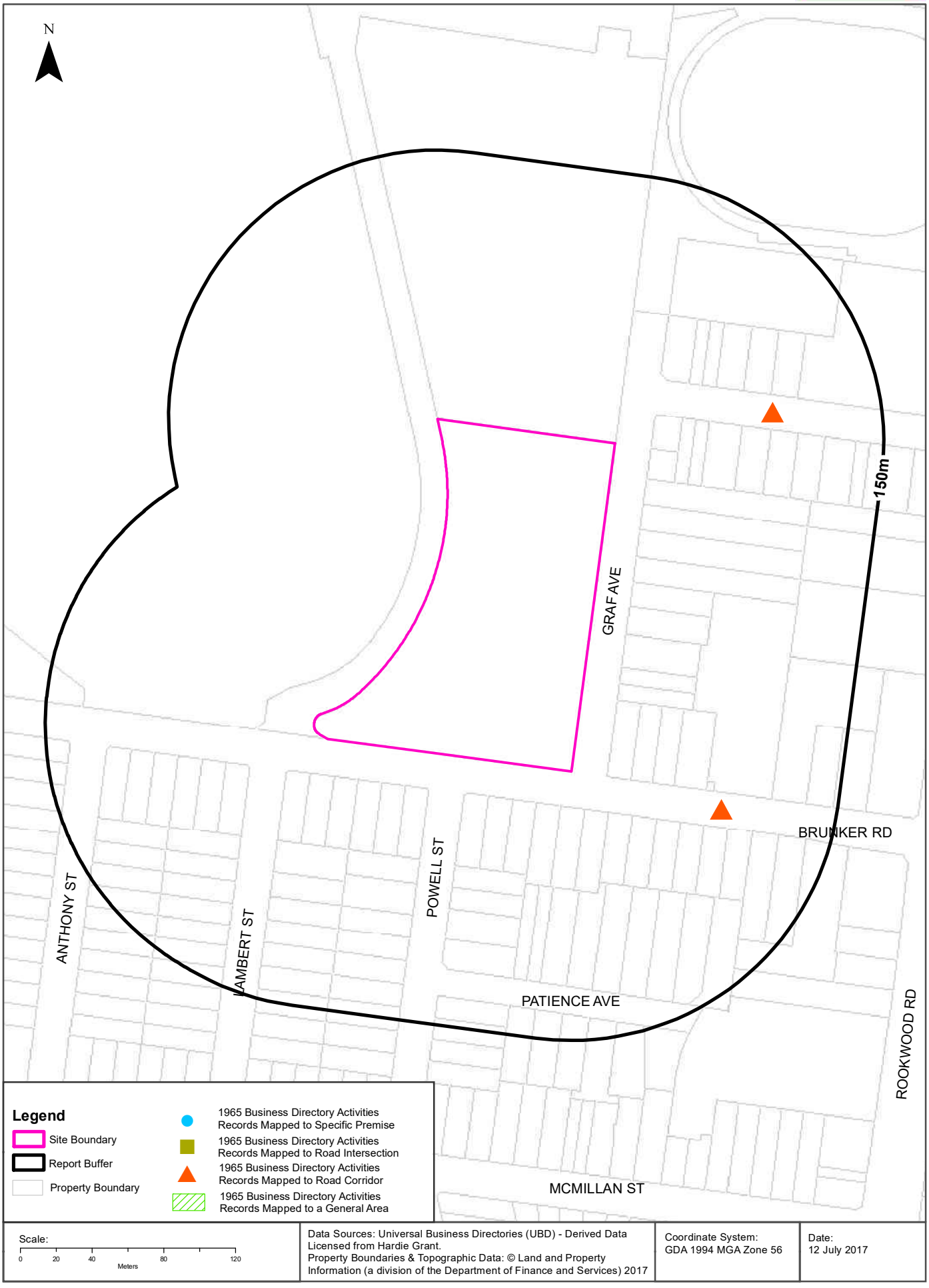
Records from the 1970 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
GROCERS-RETAIL (G655)	Peterl's Self Service,Brunker Rd.,Yagoona	312879	Road Match	0m
METAL REFINERS (M280)	Smelters & Refiners Pty. Limited,Boardman St.,Yaaoona	330080	Road Match	28m
METAL MANUFACTURERS (M256)	Smelters & Refiners Pty. Limited,Boardman St.,Yagoona	329763	Road Match	28m
METAL MERCHANTS (M260)	Smelters & Refiners Pty. Limited,Boardman St.,Yagoona	329812	Road Match	28m
SOLDER MANUFACTURERS &/OR DISTRIBUTORS (S407)	Smelters & Refiners Pty. Limited,Boardman St:,Yagoona	362238	Road Match	28m
SMELTERS (S374)	Smelters & Refiners Pty. Ltd.,Boardman St.,Yagoona	362002	Road Match	28m

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1965 Historical Business Directory Records

10 Nelson Short Street, Potts Hill, NSW 2143



Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1965 Business Directory Records
Premise or Road Intersection Matches

Records from the 1965 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

1965 Business Directory Records
Road or Area Matches

Records from the 1965 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
Canners & Canned Food Specialists	Kia-ora Industries (Division of Campbell's Soups (Aust.) Pty. Ltd,), , Brunker Rd., Yagoona	61824	Road Match	0m
Food Processors/Packers	Kia-Ora Industries (N.S.W.) Pty. Ltd., Division of Campbells Soups (Aust.) Pty. Ltd., Brunker Rd., Yagoona	88359	Road Match	0m
Food Products Mfrs.	Kia-Ora Industries (N.S.W.) Pty. Ltd., Division of Campbells Soups (Aust.) Pty. Ltd., Brunker Rd., Yagoona	88438	Road Match	0m
Fruit Juice Extract Mfrs./Merchants	Kia-Ora Industries (N.S.W.) Pty. Ltd., Division of Campbells Soups (Aust.) Pty. Ltd., Brunker Rd., Yagoona	90439	Road Match	0m
SMELTERS	Smelters & Refiners Pty. Limited , Boardman St., Yagoona	145227	Road Match	28m
SOLDER MANUFACTURERS &/OR DISTRIBUTORS	Smelters & Refiners Pty. Limited , Boardman St., Yagoona	145433	Road Match	28m
Metal Manufacturers	Smelters & Refiners Pty. Limited, Boardman St., Yagoona	114239	Road Match	28m
Metal Merchants	Smelters & Refiners Pty. Limited, Boardman St., Yagoona	114296	Road Match	28m
Metal Refiners	Smelters & Refiners Pty. Limited, Boardman St., Yagoona	114574	Road Match	28m

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Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

1950 Business Directory Records
Premise or Road Intersection Matches

Records from the 1950 UBD Business Directory, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Feature Point	Direction
N/A	No records in buffer				

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1950 Business Directory Records
Road or Area Matches

Records from the 1950 UBD Business Directory, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer			

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Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

Dry Cleaners, Motor Garages & Service Stations
Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer:

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
Motor Garages & Engineers - North Bankstown	Brunker Road Service Station, Cnr. Brunker & Rookwood Rds.	123122	1965	Road Intersection	210m	South East
Motor Service Stations - Petrol, Oil, Etc. - Bankstown	Brunker Road Service Station, Cnr. Rookwood & Broker Rd.	125425	1965	Road Intersection	210m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	Brunker Road Service Station,Cnr. Brunker & Rookwood Rds.NORTH BANKSTOWN	337454	1970	Road Intersection	215m	South East
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Brunker Road Service Station,Cnr. Rookwood & Brunker Rds.BANKSTOWN	340912	1970	Road Intersection	215m	South East
MOTOR GARAGES & SERVICE STATIONS.	P.& I. Auto Mechanical Repairs, 73 Rookwood Rd., Yagoona.	65217	1986	Premise Match	275m	South East
MOTOR GARAGES & SERVICE STATIONS.	Chariot Auto Services, 23A Brunker Rd., Greenacre.	64458	1986	Premise Match	278m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Chariot Auto Services, 23A Brunker Rd, Greenacre. 2190.	56515	1982	Premise Match	278m	South East
MOTOR GARAGES & SERVICE STATIONS.	Movers Clutch Services Pty. Ltd., 53 Rookwood Rd., Yagoona.	65361	1986	Premise Match	356m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Roevers Clutch Services Pty. Ltd., 53 Rookwood Rd.,Yagoona. 2199.	57488	1982	Premise Match	356m	South East
MOTOR GARAGES & SERVICE STATIONS.	Claremont Motors, 20 Claremont Ave., Greenacre.	64475	1986	Premise Match	372m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Claremont Motors, 20 Claremont Ave., Greenacre. 2190,	56535	1982	Premise Match	372m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Claremont Motors, 20 Claremont Ave., Greenacre.	49811	1978	Premise Match	372m	South East
MOTOR GARAGES &/OR ENGINEERS.	Claremont Motors, 20 Claremont Ave., Greenacre.	58670	1975	Premise Match	372m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Dixon, S., 153 Rookwood Rd., Yagoona. 2199.	56631	1982	Premise Match	396m	North East
Motor Garages & Engineers - Yagoona	Orana Service Station, 47 Rockwood Rd.	123566	1965	Premise Match	403m	South East
Motor Service Stations - Petrol, Oil, Etc. - Yagoona	Orana Service Station, 47 Rookwood Rd.	126266	1965	Premise Match	403m	South East
Motor Garages & Engineers - Yagoona	Total Yagoona, 45 Rookwood Rd.	123567	1965	Premise Match	406m	South East
Motor Service Stations - Petrol, Oil, Etc. - Greenacre	Thurtell, W. J., 45 Rockwood Rd., Greenacre	125744	1965	Premise Match	407m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Greenacre Auto Wreckers, 15 Claremont Ave., Greenacre, 2190.	56903	1982	Premise Match	422m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Munns Motors. 15 Claremont Ave., Greenacre.	50562	1978	Premise Match	422m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Johnston, Arthur Engineering, 28 Beresford Ave., Greenacre.2190.	57014	1982	Premise Match	484m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Johnstons Automotive Repairs Pty. Ltd., 43 Claremont Ave., Greenacre.	50301	1978	Premise Match	499m	South East
Motor Garages & Service Stations	BP Potts Hil 155 Rookwood Rd., Yagoona, 2199	53595	1991	Premise Match	538m	North East
MOTOR GARAGES & SERVICE STATIONS.	BP Potts Hill, 155 Rookwood Rd., Yagoona.	64206	1986	Premise Match	538m	North East
MOTOR GARAGES & SERVICE STATIONS.	JR Engineering, 155 Rookwood Rd., Yagoona.	64923	1986	Premise Match	538m	North East

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	BP Potts Hill Service Station, 155 Rookwood Rd.. Yagoona.	49599	1978	Premise Match	538m	North East
MOTOR GARAGES & SERVICE STATIONS.	Rebkat Fleet Management, 33 Beresford Ave., Greenacre.	65327	1986	Premise Match	553m	South East
Motor Garages & Engineers - Greenacre	Ivan's Volk Motor Exchange, 57 Claremont Ave.	122737	1965	Premise Match	553m	South East
MOTOR GARAGES &/OR ENGINEERS.	Greenacre Automotive Services Pty. Ltd., 44 Rosedale Ave.	58995	1975	Premise Match	567m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	Ivan's Volk Motor Exchange,57 Claremont Ave.GREENACRE	338052	1970	Premise Match	574m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Stiegler, R. Autos, 58 Beresford Ave., Greenacre. 2190.	57628	1982	Premise Match	579m	South East
MOTOR GARAGES & SERVICE STATIONS.	Haddad, M., 60 Beresford Ave., Greenacre.	64840	1986	Premise Match	586m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Haddad, M., 60 Beresford Ave., Greenacre. 2190.	56932	1982	Premise Match	586m	South East
MOTOR GARAGES & SERVICE STATIONS.	Bankstown Automatics, 38 Rosedale Ave., Greenacre.	64011	1986	Premise Match	600m	South East
MOTOR SERVICE STATIONS - PETROL, OIL	BP Potts Hid Service Station, 165 Reokwood Rd., Yagoona.	61538	1975	Premise Match	627m	North East
MOTOR SERVICE STATIONS - PETROL, OIL	BPPotts Hill Service Station, 165 Rookwood Rd., Bankstown.	61539	1975	Premise Match	627m	North East
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	BP Potts Hifl Service Station,165 Rookwood Rd.YAGOONA	340883	1970	Premise Match	642m	North East
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	BP Potts Hill Service Station,165 Rookwood Rd.BANKSTOWN	340884	1970	Premise Match	642m	North East
Motor Service Stations - Petrol, Oil, Etc. - Bankstown	B.P. Potts Hill Service Station, 163 Rookwood Rd.	125423	1965	Premise Match	642m	North East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Chariot Auto Services, 33 Rosedale Ave., Greenacre.	49789	1978	Premise Match	648m	South East
MOTOR GARAGES & SERVICE STATIONS.	Greenacre Automotive Services Pty. Ltd., 56 Rosedale Ave , Greenacre.	64817	1986	Premise Match	653m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Greenacre Automotive Services Pty. Ltd., 56 Rosedale Ave.,Greenacre. 2190.	56904	1982	Premise Match	653m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Greenacre Automotive Services Pty. Ltd., 56 Rosedale Ave., Greenacre.	50195	1978	Premise Match	653m	South East
Motor Garages & Engineers - Greenacre	Robinson, Bob, 63 Berestord Ave.	122740	1965	Premise Match	656m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Road & Rally Centre, 55 Rosed ale Ave., Greenacre. 2190.	57472	1982	Premise Match	706m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	E.K. Motors, 57 Rosedale Ave., Chullora. 2190.	56649	1982	Premise Match	712m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	E.K. Motors, 57 Rosedale Ave., Chullora.	49923	1978	Premise Match	712m	South East
MOTOR GARAGES &/OR ENGINEERS.	E.K. Motors, 57 Rosedale Ave., Chullora.	58782	1975	Premise Match	712m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	E.K. Motors,57 Rosedal Ave.,Chullora Park	337706	1970	Premise Match	712m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Premier Panel Beating Pty. Ltd., 67 Rosedale Ave.,Greenacre. 2190.	57404	1982	Premise Match	745m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Bankstown Motor Car Automatics, 75 Rosedale Ave Greenacre2190.	56090	1982	Premise Match	774m	South East
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Bankstown Motor Car Automatics, 75 Rosedale Ave., Greenacre.	49373	1978	Premise Match	774m	South East
MOTOR GARAGES &/OR ENGINEERS	Bankstown Motor Engineers, 563 Chapel Rd., Bankstown	83418	1950	Premise Match	800m	South
MOTOR SERVICE STATIONS-PETROL, Etc.	Bankstown Motor Engineers, 563 Chapel Rd., Bankstown	85771	1950	Premise Match	800m	South
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Amoco Service Station,Cnr. Hume Highway. & Chapel Rd.BANKSTOWN	340757	1970	Road Intersection	875m	South
Motor Service Stations - Petrol, Oil, Etc. - Bankstown	Amoco Service Station, Cnr. Hume Hghwy. & Chapel Rd.	125422	1965	Road Intersection	875m	South

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Feature Point	Direction
MOTOR GARAGES &/OR ENGINEERS.	Savoy Service Station, 289 Hume H'way, Enfield.	59511	1975	Premise Match	943m	South East
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Crowe,R.,118 Hume Highway.YAGOONA	340994	1970	Premise Match	946m	East
MOTOR GARAGES & SERVICE STATIONS.	Dib, John & Tony Slelman-Mobil Service Station, 301 Hume H'way., Greenacre.	64554	1986	Premise Match	964m	South East
Motor Service Stations - Petrol, Oil, Etc. - South Strathfield	Meredith Service Station, 257 Hume Hghwy.	126175	1965	Premise Match	972m	South East
MOTOR GARAGES & ENGINEERS(M6S6)	Allen's Service Station,545-547 Chapel Rd.BANKSTOWN	337180	1970	Premise Match	975m	South
MOTOR GARAGES &/OR ENGINEERS	Chapel Hill Service Station, 545 Chapel Rd., North Bankstown	83577	1950	Premise Match	990m	South
MOTOR SERVICE STATIONS-PETROL, Etc.	Chapel Hill Service Station, 545 Chapel Rd., North Bankstown	85866	1950	Premise Match	990m	South
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Chapel Hill Service Station, 545 Chapel Rd., Bankstown. 2200.	56510	1982	Premise Match	994m	South
MOTOR SERVICE STATIONS - PETROL, OIL	Chapel Hill Service Station, 545 Chapel Rd., Bankstown.	61639	1975	Premise Match	994m	South
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Chapel Hill Service Station, 545 Chapel Rd., Bankstown.	49785	1978	Premise Match	995m	South
Motor Garages & Engineers - Bankstown	Allen's Service Station, 545-547 Chapel Rd.	122184	1965	Premise Match	995m	South

Business Directory Content Derived from Universal Business Directories (UBD) - Licensed from Hardie Grant

Historical Business Directories

10 Nelson Short Street, Potts Hill, NSW 2143

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
MOTOR SERVICE STATIONS - PETROL, OIL	Brunker Rd. Service Station, Brunker Rd., North Bankstown,	61456	1975	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Brunker Rd. Service Station, Brunker Rd., North Bankstown.	49470	1978	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS.	Brunker Rd. Service Station, Brunker Rd., North Bankstown.	58495	1975	Road Match	0m
MOTOR GARAGES & SERVICE STATIONS.	Brunker Road Service Station, Brunker Rd., North Bankstown.	64272	1986	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Brunker Road Service Station, Brunker Rd., North Bankstown. 2200.	56351	1982	Road Match	0m
MOTOR GARAGES &/OR ENGINEERS.	Brunker Rd. Service Station. Rookwood Rd . Yagoona.	58496	1975	Road Match	194m
MOTOR GARAGES & ENGINEERS(M6S6)	Brunker Road Sendee Station,Rookwood Rd.YAGOONA	337453	1970	Road Match	194m
Motor Garages & Engineers - Yagoona	Brunker Road Service Station, Rookwood Rd.	123564	1965	Road Match	194m
Motor Garages & Service Stations	Solo Rookwood Road Service Station Rookwood Rd., Yagoona	53905	1991	Road Match	194m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Solo Rookwood Road, Rookwood Rd., Vagoona. 2199.	57589	1982	Road Match	194m
MOTOR GARAGES & SERVICE STATIONS.	Solo Rookwood Road, Rookwood Rd., Yagoona.	65473	1986	Road Match	194m
Motor Garages & Engineers - Yagoona	White's Service Centre, Rookwood Rd.	123568	1965	Road Match	194m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Whites Service Centre, Rookwood Rd., Yagoona.	51105	1978	Road Match	194m
MOTOR GARAGES &/OR ENGINEERS.	White's Service Centre, Rookwood Rd., Yagoona.	59777	1975	Road Match	194m
MOTOR GARAGES & ENGINEERS(M6S6)	White's Service Centre,Rookwood Rd.YAGOONA	338882	1970	Road Match	194m
Dry Cleaners, Pressers/Dyers	Roosevelt Dry Cleaners & Dyers Pty. Ltd., Brunker Rd., Greenacre	76315	1965	Road Match	231m
MOTOR GARAGES & ENGINEERS(M6S6)	Ivans Volk Motor Exchange,Rosedale Ave.,Greenacre	338053	1970	Road Match	568m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Amoco Bankstown Service Station, Hume H'way., Bankstown.2200.	55955	1982	Road Match	827m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Amoco Service Station, Hume H'Way., Bankstown	49243	1978	Road Match	827m
MOTOR GARAGES & SERVICE STATIONS.	BP Bankstown, Hume H'way., Bankstown.	64092	1986	Road Match	827m
MOTOR GARAGES &/OR ENGINEERS.	Drive-In Service Station. Hume H'way. Greenacre.	58769	1975	Road Match	827m
Motor Garages & Engineers - Greenacre	Greenacre Service Centre, 311 Hume Hghwy.	122735	1965	Road Match	827m
Motor Service Stations - Petrol, Oil, Etc. - Greenacre	Greenacre Service Centre, 311 Hume Hghwy.	125741	1965	Road Match	827m
Motor Service Stations - Petrol, Oil, Etc. - Enfield	Ampol Service Station, Hume Hghwy.	125670	1965	Road Match	893m
Motor Service Stations - Petrol, Oil, Etc. - Yagoona	B.P. Yagoona Service Station, Hume Hghwy.	126263	1965	Road Match	893m

Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
MOTOR GARAGES &/OR ENGINEERS	Brancourt Service Station, 142 Hume Hghwy., Yagoona	83490	1950	Road Match	893m
MOTOR SERVICE STATIONS-PETROL, Etc.	Brancourt Service Station, 142 Hume Hghwy., Yagoona	85814	1950	Road Match	893m
Motor Service Stations - Petrol, Oil, Etc. - Greenacre	Coronation Service Station, Hume Hghwy.	125738	1965	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Drive-In Service Station, Hume H'way, Greenacre, 2190,	56638	1982	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Drive-In Service Station. Hume H'way, Greenacre.	49910	1978	Road Match	893m
MOTOR GARAGES & ENGINEERS(M6S6)	Ern Jones Pty. Ltd.,56-58 Hume Highway.BANKSTOWN	337737	1970	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Greenacre Service Centre, 311 Hume H'way., Greenacre. 2190.	56905	1982	Road Match	893m
MOTOR GARAGES & ENGINEERS(M6S6)	Greenacre Service Centre,311 Hume Highway.GREENACRE	337938	1970	Road Match	893m
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Greenacre Service Centre,311 Hume Highway.GREENACRE	341186	1970	Road Match	893m
Motor Garages & Engineers - Yagoona	Hastings Deering Service Ltd., Hume Hghwy.	123565	1965	Road Match	893m
MOTOR GARAGES & ENGINEERS(M6S6)	Reno Service Station,Hume Highway.GREENACRE	338503	1970	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Suttons Motors (Chullora) Pty. Ltd., 79 Hume H'way, Chullora.	50908	1978	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Suttons Motors (Chullora) Pty. Ltd., 79 Hume H'way, Chullora.2190.	57658	1982	Road Match	893m
MOTOR GARAGES & SERVICE STATIONS.	Suttons Motors (Chullora) Pty. Ltd., 79 Hume H'way., Chullora.	65536	1986	Road Match	893m
MOTOR GARAGES & ENGINEERS(M6S6)	Suttons Motors (Chullora) Pty. Ltd.,79 Hume Highway.CHULLORA	338694	1970	Road Match	893m
MOTOR SERVICE STATIONS-PETROL,OIL,Etc. (M716)	Suttons Motors (Chullora) Pty. Ltd.,79 Hume Highway.CHULLORA	341521	1970	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Yagoona Auto Port, 120 Hume H'Way., Yagoona.	51139	1978	Road Match	893m
MOTOR SERVICE STATIONS - PETROL, OIL	Yagoona Auto Port, Hume H'way, Yagoona.	62060	1975	Road Match	893m
MOTOR GARAGES & ENGINEERS(M6S6)	Yagoona Auto Port,122 Hume Highway.YAGOONA	338921	1970	Road Match	893m
Motor Service Stations - Petrol, Oil, Etc. - Yagoona	Yagoona Service Station, Hume Hghwy.	126268	1965	Road Match	893m
MOTOR GARAGES &/OR ENGINEERS.	Als & Dots Service Station, Chapel Rd., Bankstown.	58322	1975	Road Match	917m
MOTOR GARAGES & ENGINEERS(M6S6)	Al's & Dot's Service Station,Chapel Rd.BANKSTOWN	337182	1970	Road Match	917m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Als & Dots Service Station. Chapel Rd., Bankstown.	49231	1978	Road Match	917m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Boronia Service Station, Boronia Rd., Greenacre.	49436	1978	Road Match	930m
MOTOR GARAGES &/OR ENGINEERS.	Boronia Service Station, Boronia Rd., Greenacre.	58460	1975	Road Match	930m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Boronia Service Station, Boronia Rd., Greenacre. 2190.	56147	1982	Road Match	930m
MOTOR GARAGES & SERVICE STATIONS.	Botany Service Station, Boronia Rd., Greenacre.	64074	1986	Road Match	930m
MOTOR GARAGES &/OR ENGINEERS.	Botany Service Station, Boronia Rd., Greenacre.	58462	1975	Road Match	930m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS. (M6860)	Botany Service Station, Boronia Rd., Greenacre. 2190.	56149	1982	Road Match	930m
MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Botany Service Station, Boronia Rd.. Greenacre.	49438	1978	Road Match	930m

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Aerial Imagery 2014

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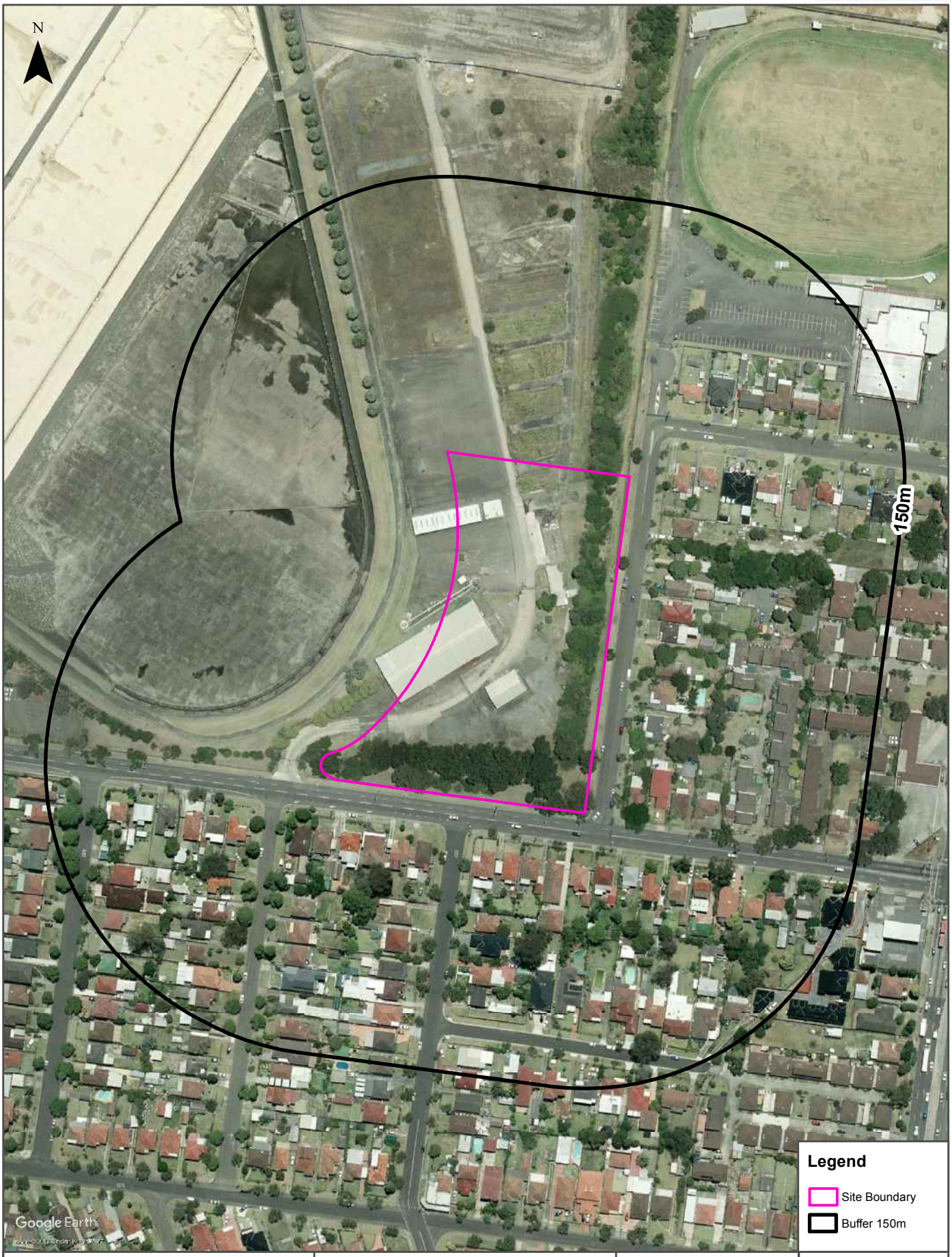


Scale:	Data Sources:Aerial Imagery © Land and Property Information (a division of the Department of Finance and Services)	Coordinate System: GDA 1994 MGA Zone 56	Date: 12July 2017

0 25 50 100 Meters

Aerial Imagery 2009

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Scale:
0 25 50 100
Meters

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Coordinate System:
GDA 1994 MGA Zone 56

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Aerial Imagery 2003

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Aerial Imagery 1991

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Aerial Imagery 1982

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Aerial Imagery 1970

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Aerial Imagery 1965

10 Nelson Short Street Potts Hill, NSW 2143



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Coordinate System: GDA 1994 MGA Zone 56

Date: 10 July, 2017

Aerial Imagery 1961

10 Nelson Short Street Potts Hill, NSW 2143



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Aerial Imagery 1955

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Scale: 0 25 50 100 Meters	Data Sources: Historical Aerials: © Land and Property Information (a division of the Department of Finance and Services)	Coordinate System: GDA 1994 MGA Zone 56	Date: 10 July, 2017

Aerial Imagery 1943

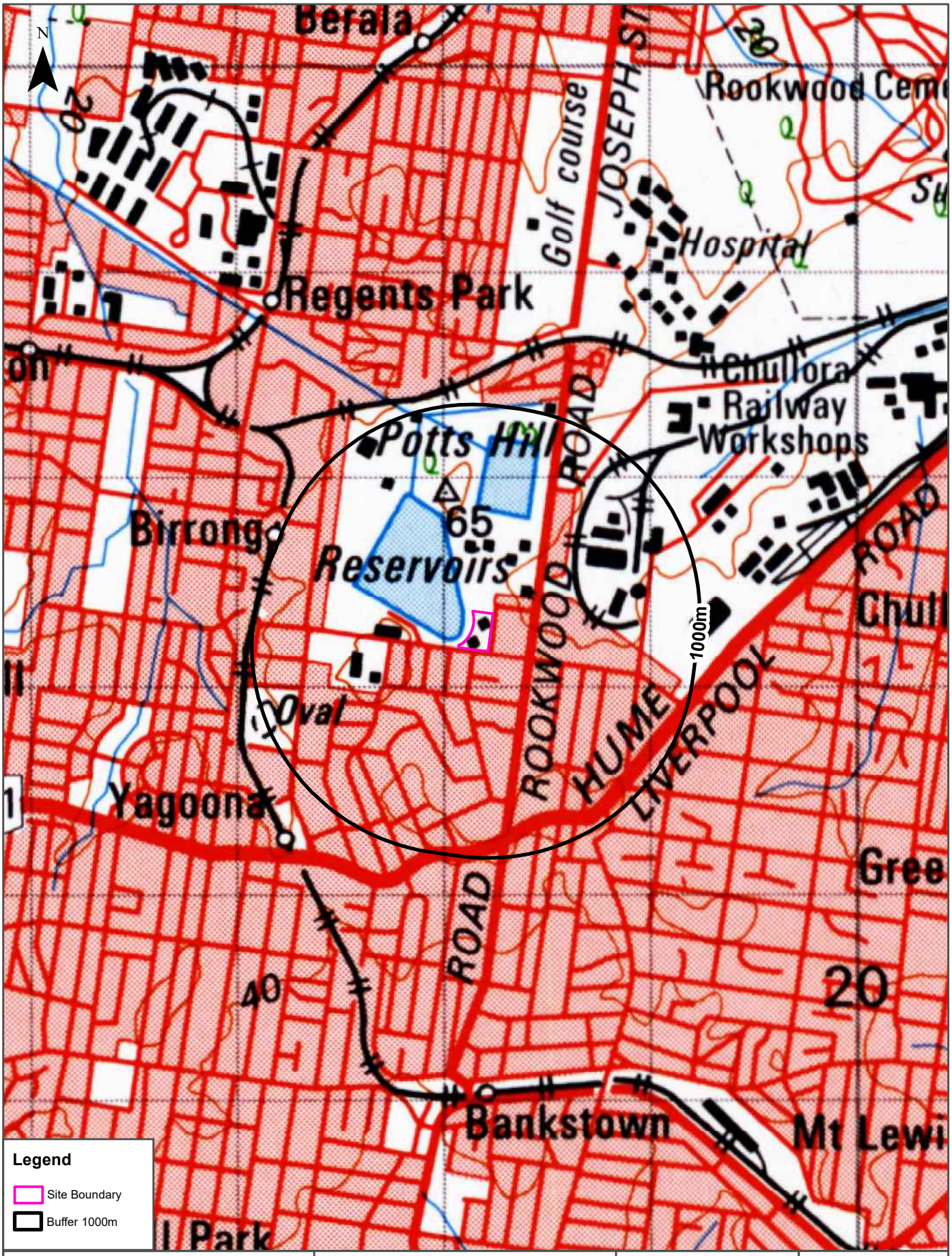
10 Nelson Short Street, Potts Hill, NSW 2143



Scale: 0 25 50 100 Meters	Data Sources:Aerial Imagery © Land and Property Information (a division of the Department of Finance and Services)	Coordinate System: GDA 1994 MGA Zone 56	Date: 12July 2017

Historical Map 1975

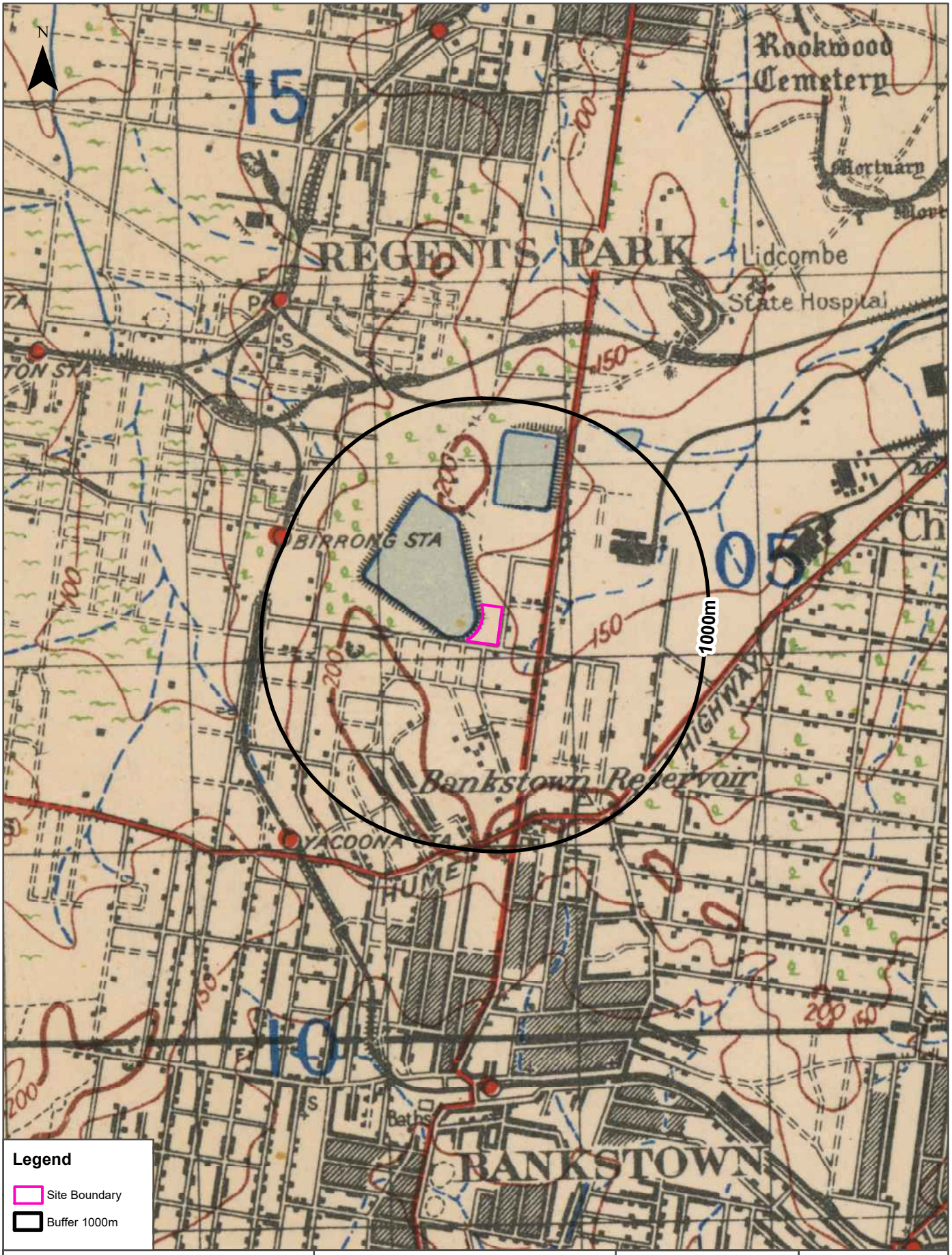
10 Nelson Short Street Potts Hill, NSW 2143



Scale: 0 250 500 1,000 Meters	Data Sources: Sheet 9130 Edition 1 Sydney, NSW National Topographic Map Series Commonwealth of Australia	Coordinate System: GDA 1994 MGA Zone 56	Date: 11 July 2017

Historical Maps ca.1949

10 Nelson Short Street Potts Hill, NSW 2143



Scale: 0 250 500 1,000 Meters

Data Sources: Australia 1:63360 Sheet 423
Sydney, New South Wales
Prepared by Commonwealth Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 56

Date: 11 July 2017

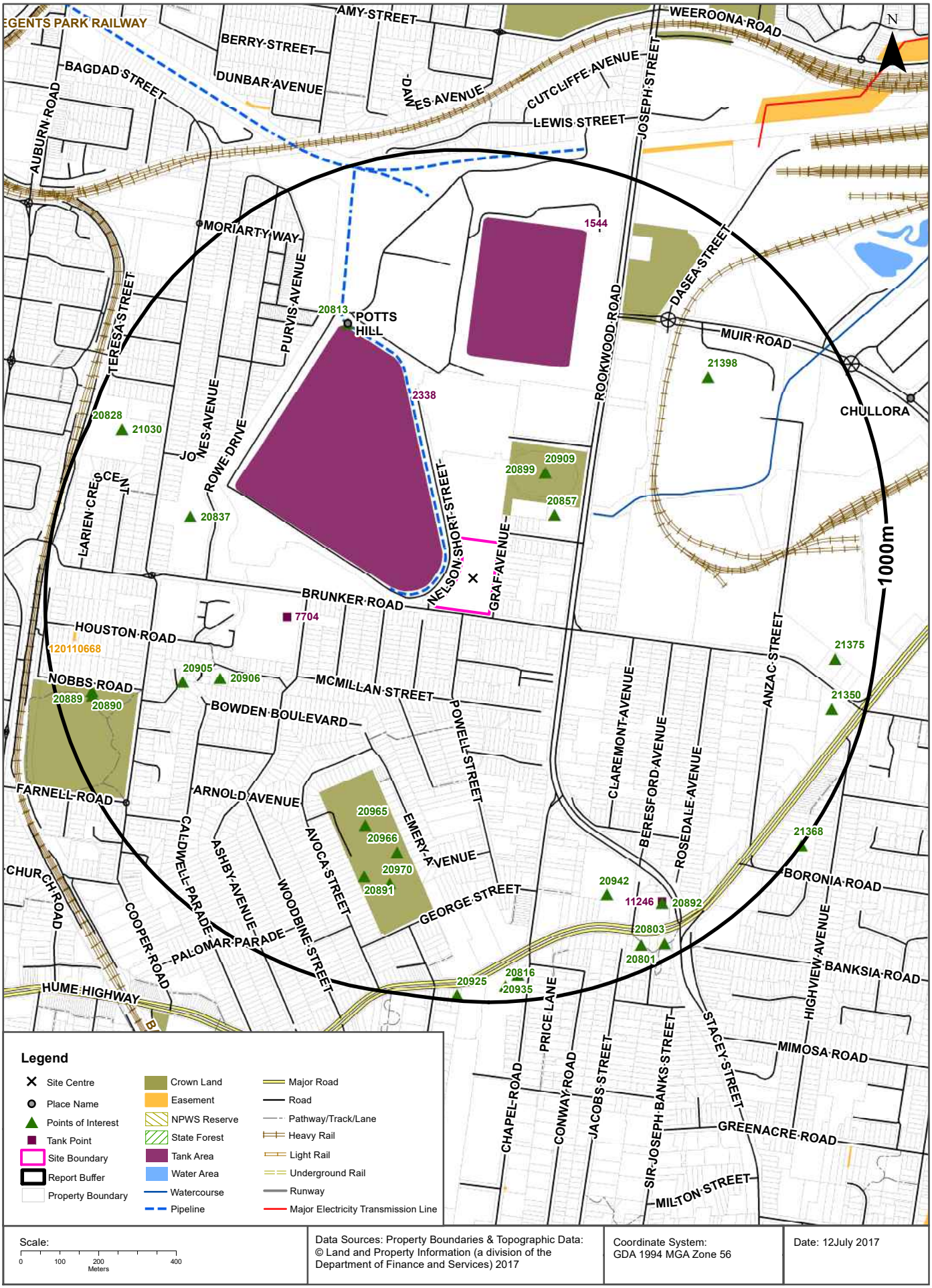
Historical Maps ca.1917

10 Nelson Short Street Potts Hill, NSW 2143



Topographic Features

10 Nelson Short Street, Potts Hill, NSW 2143



Topographic Features

10 Nelson Short Street, Potts Hill, NSW 2143

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
20857	Club	GREYHOUND SOCIAL CLUB LTD	161m	North East
20899	Park	POTTS PARK SPORTING COMPLEX	218m	North East
20909	Dog Track	POTTS PARK GREYHOUND TRACK	218m	North East
20906	Park	TERPENTINE RESERVE	581m	West
20965	Sports Field	GEORGE GREEN OVAL	591m	South West
20813	Suburb	POTTS HILL	623m	North West
20966	Sports Court	CRICKET NETS	639m	South
20837	Park	SMAIL RESERVE	664m	West
20905	Park	RUDELLE RESERVE	676m	West
21398	Rubbish Depot	CHULLORA RESOURCE RECOVERY PARK	688m	North East
20891	Park	PLAYGROUND	718m	South
20970	Sports Field	GRAF PARK	722m	South
20942	Primary School	BANKSTOWN NORTH PUBLIC SCHOOL	783m	South East
20892	Historic Site	BANKSTOWN RESERVOIR	867m	South East
21375	Place Of Worship	LIBERTY HILL CHRISTIAN CENTRE	898m	East
20890	Sports Court	FITNESS EQUIPMENT	907m	West
20889	Park	PLAYGROUND	908m	West
20828	High School	BIRRONG BOYS HIGH SCHOOL	914m	North West
21030	High School	SATURDAY SCHOOL OF COMMUNITY LANGUAGES BIRRONG BOY	914m	North West
21350	Park	WINDSOR PARK	915m	East
20935	Place Of Worship	CATHOLIC CHURCH	933m	South
20801	Park	WOOD PARK	937m	South East
20816	High School	LA SALLE CATHOLIC COLLEGE	959m	South
20803	Park	APEX RESERVE	960m	South East
20925	Fire Station	BANKSTOWN FIRE STATION	985m	South
21368	Community Home	BUPA GREENACRE	1000m	South East

Topographic Data Source: © Land and Property Information (2015)
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Topographic Features

10 Nelson Short Street, Potts Hill, NSW 2143

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
2338	Water	Operational	POTTS HILL RESERVOIR	01/01/2009	47m	North West
1544	Tank-RuralWater	Feature on Previous LPI Tank Area Supply		01/01/2009	468m	North

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
7704	Tank-RuralWater	Feature on Previous LPI Tank Point Supply		05/10/2000	378m	West
11246	Water	Operational	BANKSTOWN RESERVOIR	01/11/2014	864m	South East

Tanks Data Source: © Land and Property Information (2015)
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Major Easements

What Major Easements exist within the dataset buffer?
Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120110668	Primary	Undefined		922m	West

Easements Data Source: © Land and Property Information (2015)
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Topographic Features

10 Nelson Short Street, Potts Hill, NSW 2143

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

State Forest Data Source: © Land and Property Information (2015)
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National Parks and Wildlife Service Reserves

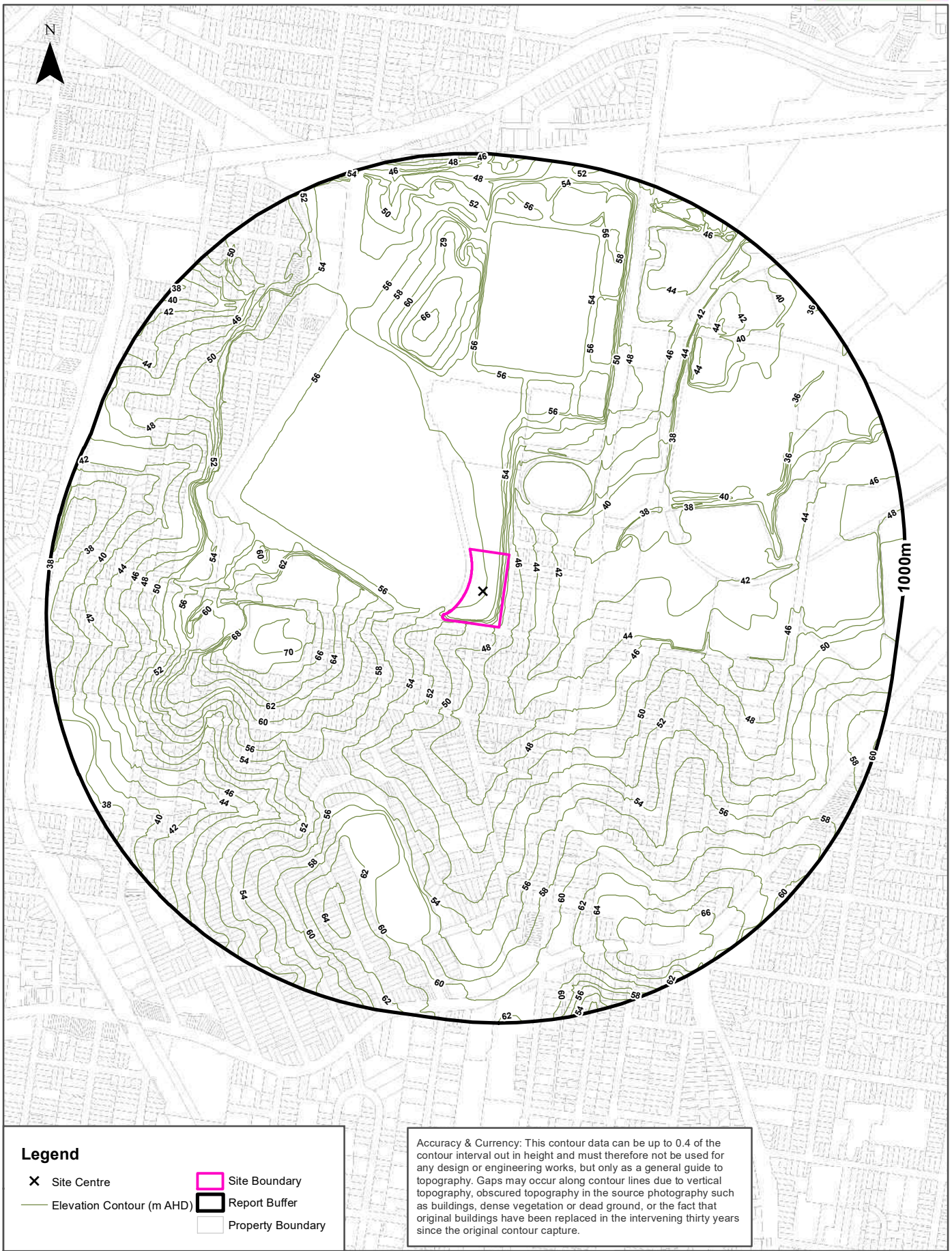
What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

NPWS Data Source: © Land and Property Information (2015)
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Elevation Contours (m AHD)

10 Nelson Short Street, Potts Hill, NSW 2143



Legend

- Site Centre
- Elevation Contour (m AHD)
- Site Boundary
- Report Buffer
- Property Boundary

Accuracy & Currency: This contour data can be up to 0.4 of the contour interval out in height and must therefore not be used for any design or engineering works, but only as a general guide to topography. Gaps may occur along contour lines due to vertical topography, obscured topography in the source photography such as buildings, dense vegetation or dead ground, or the fact that original buildings have been replaced in the intervening thirty years since the original contour capture.

Scale: 0 100 200 400 Meters

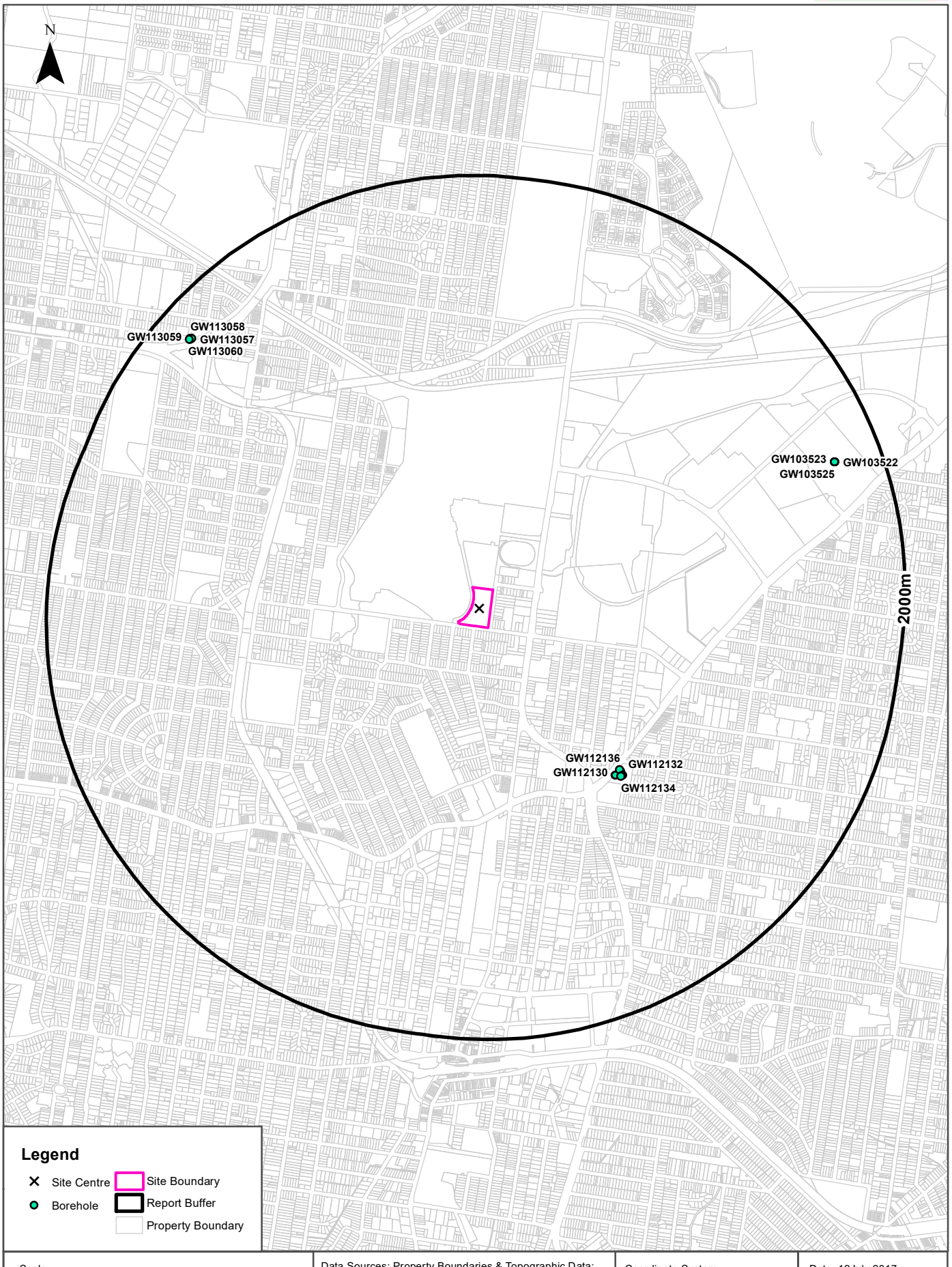
Data Sources: Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017

Coordinate System: GDA 1994 MGA Zone 56

Date: 12July 2017

Groundwater Boreholes

10 Nelson Short Street, Potts Hill, NSW 2143



Hydrogeology & Groundwater

10 Nelson Short Street, Potts Hill, NSW 2143

Hydrogeology

Description of aquifers on-site:

Description
Porous, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Porous, extensive aquifers of low to moderate productivity

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
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Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth	Drilled Depth	Salinity	SWL	Yield	Elev	Dist	Dir
GW112136	10BL161854	Bore	Private	Monitoring		30/01/2003	13.00	13.00					941m	South East
GW112130	10BL161854	Bore	Private	Monitoring		28/01/2003	10.50	10.50					948m	South East
GW109734	10BL162770	Well	Private	Monitoring	Macquarie Drilling	03/11/2003	4.00	4.00	1120	1.80			948m	South East
GW112132	10BL161854	Bore	Private	Monitoring		02/04/2013	10.00	10.00					949m	South East
GW112135	10BL161854	Bore	Private	Monitoring		28/11/2001	4.50	4.50					958m	South East
GW112133	10BL161854	Bore	Private	Monitoring		29/01/2003	4.00	4.00					967m	South East
GW112134	10BL161854	Bore	Private	Monitoring		29/01/2003	3.70	3.70					968m	South East
GW112131	10BL161854	Bore	Private	Monitoring		28/01/2003	13.00	13.00					972m	South East
GW109735	10BL162770	Well	Private	Monitoring	IT Environmental	04/12/2003	11.00	11.00	10.36	9.10			972m	South East
GW103521	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	09/01/2001	6.00	6.00					1770m	East
GW103522	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	09/01/2001	3.80	3.80					1770m	East
GW103520	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	10/07/2000	5.00	5.00					1770m	East
GW103524	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	09/01/2001	2.50	2.50					1770m	East
GW103519	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	10/07/2000	3.50	3.50					1770m	East
GW103523	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	09/01/2001	6.00	6.00					1770m	East
GW103514	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	10/07/2000	5.00	5.00					1770m	East

GW No.	Licence No	Work Type	Owner Type	Purpose	Contractor	Complete Date	Final Depth	Drilled Depth	Salinity	SWL	Yield	Elev	Dist	Dir
GW103525	10BL159972	Bore		Monitoring	Engineering Explorations Pty Ltd	09/01/2001	3.00	3.00					1770m	East
GW113057	10BL602382	Bore	Other Govt	Monitoring	Macquarie Drilling	17/12/2007	7.00	7.00					1821m	North West
GW113060	10BL602382	Bore	Other Govt	Monitoring	Macquarie Drilling	17/12/2007	6.00	6.00					1822m	North West
GW113058	10BL602382	Bore	Other Govt	Monitoring	Macquarie Drilling	17/12/2007	6.00	6.00					1825m	North West
GW113059	10BL602382	Bore	Other Govt	Monitoring	Macquarie Drilling	17/12/2007	6.00	6.00					1826m	North West

Borehole Data Source : NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Hydrogeology & Groundwater

10 Nelson Short Street, Potts Hill, NSW 2143

Driller's Logs

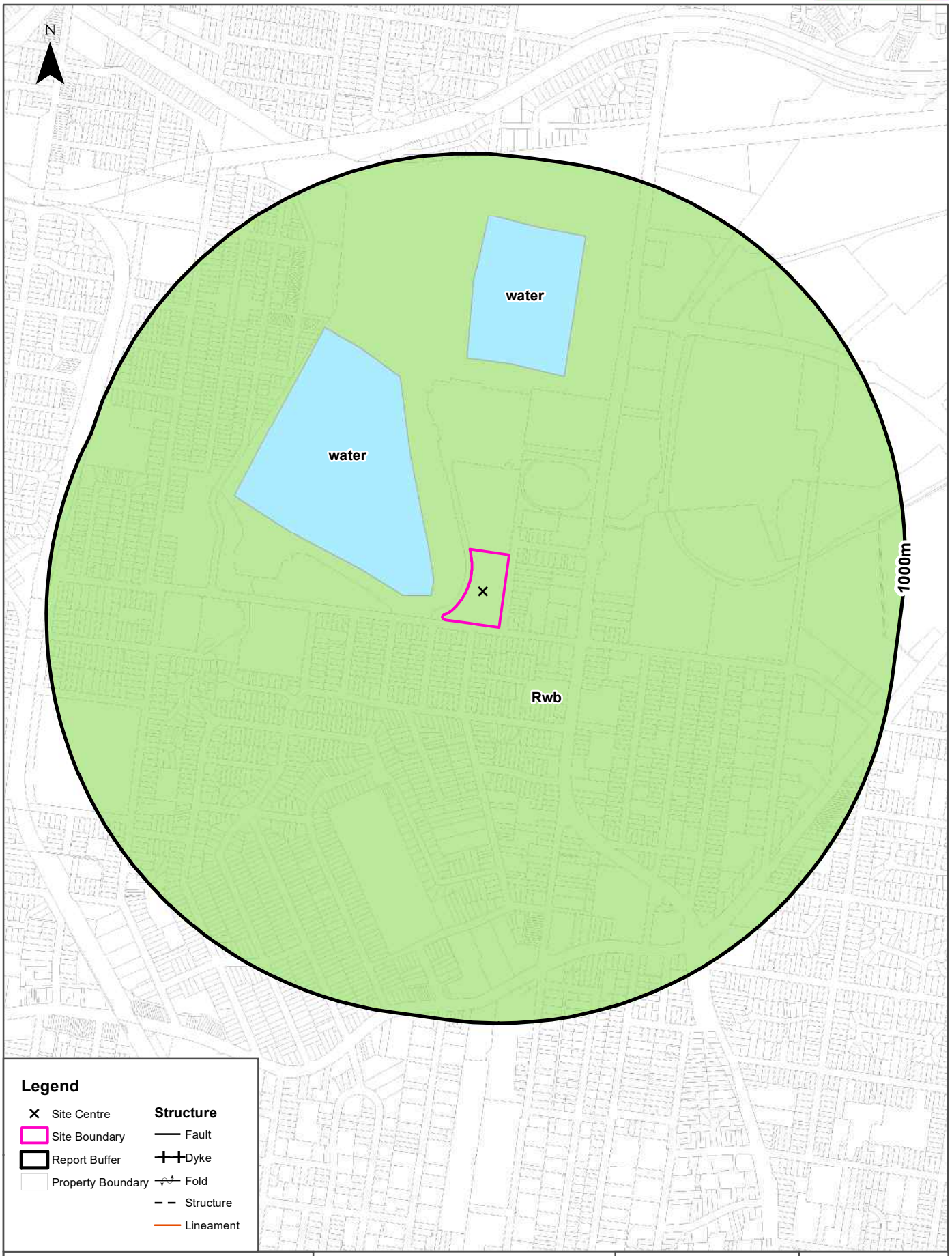
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW109734	0.00m-0.20m CONCRETE 0.20m-2.40m FILL 2.40m-4.00m CLAY	948m	South East
GW109735	0.00m-0.15m CONCRETE 0.15m-2.10m FILL 2.10m-4.30m CLAY 4.30m-11.00m SHALE	972m	South East
GW103514	0.00m-1.00m SILT/SAN/GRAVEL 1.00m-1.50m CLAY,BROWN,GREY 1.50m-5.00m SILT,DRY,NON PLASTIC,BROWN	1770m	East
GW103519	0.00m-2.00m Clay,moist,dark brown/grey 2.00m-3.50m Silt,dry, non plastic,becoming weathered shale	1770m	East
GW103520	0.00m-1.00m SILT/SAND/GRAVEL,FINE,NON PLASTIC 1.00m-3.00m CLAY,WET,LOW PLASTICITY 3.00m-5.00m SILT,DRY,PALE BROWN,GREY/WET SHALE	1770m	East
GW103521	0.00m-1.50m FILL,SANDSTONE/SILT/GRAVEL 1.50m-4.50m FILL/SILTY CLAY,BROWN,MINOR GRAVEL 4.50m-5.30m SILTY CLAY 5.30m-5.40m WEATHERED SHALE,BROWN 5.40m-6.00m SILTY CLAY	1770m	East
GW103522	0.00m-1.50m FILL,ASH,BLACK,SOME FINE GRAVEL 1.50m-3.80m SILTY CLAY,ORANGE,BROWN,SOFT	1770m	East
GW103523	0.00m-4.50m FILL,GRAVEL,SAND,SILT:BROWN/GREY 4.50m-6.00m SILTY CLAY,ORANGE/BROWN/FIRM	1770m	East
GW103524	0.00m-0.30m FILL: CLAY/GRAVEL/SILT 0.30m-2.50m SILTY CLAY,ORANGE/BROWN	1770m	East
GW103525	0.00m-0.90m FILL:SAND/SILT/GRAVEL 0.90m-3.00m SILTY CLAY,BROWN,MEDIUM GRAVEL	1770m	East
GW113057	0.00m-0.50m FILL 0.50m-2.00m CLAY 2.00m-7.00m BEDROCK	1821m	North West
GW113060	0.00m-0.10m FILL 0.10m-2.00m FILL,SANDY CLAY 2.00m-6.00m BEDROCK	1822m	North West
GW113058	0.00m-0.10m FILL 0.10m-1.80m CLAY 1.80m-6.00m BEDROCK	1825m	North West
GW113059	0.00m-0.10m FILL 0.10m-2.00m FILL,SANDY CLAY 2.00m-6.00m BEDROCK	1826m	North West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:100,000

10 Nelson Short Street, Potts Hill, NSW 2143



Data Sources: Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017

Coordinate System: GDA 1994 MGA Zone 56

Date: 12July 2017

Geology

10 Nelson Short Street, Potts Hill, NSW 2143

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwb	Shale, carbonaceous claystone, laminate, fine to medium-grained lithic sandstone, rare coal	Bringelly Shale	Wianamatta Group		Triassic		Sydney	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwb	Shale, carbonaceous claystone, laminate, fine to medium-grained lithic sandstone, rare coal	Bringelly Shale	Wianamatta Group		Triassic		Sydney	1:100,000
water							Sydney	1:100,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

Geological Data Source : NSW Department of Industry, Resources & Energy
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Naturally Occurring Asbestos Potential

10 Nelson Short Street, Potts Hill, NSW 2143

Naturally Occurring Asbestos Potential

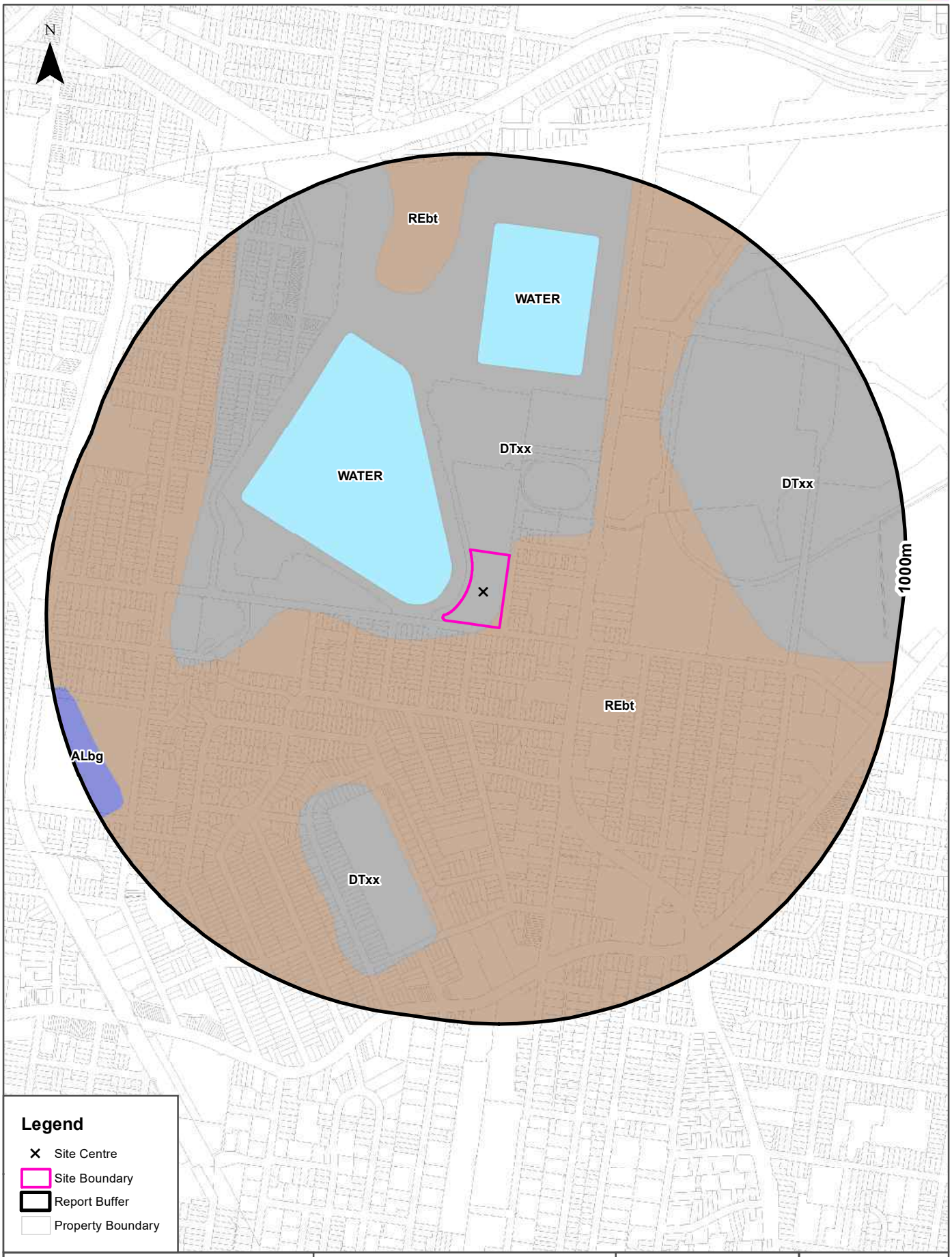
Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Soil Landscapes

10 Nelson Short Street, Potts Hill, NSW 2143



Soils

10 Nelson Short Street, Potts Hill, NSW 2143

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Sydney	1:100,000
REbt	BLACKTOWN		RESIDUAL	Sydney	1:100,000

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALbg	BIRRONG		ALLUVIAL	Sydney	1:100,000
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Sydney	1:100,000
REbt	BLACKTOWN		RESIDUAL	Sydney	1:100,000
WATER	WATER		WATER	Sydney	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage
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Standard Local Environmental Plan Acid Sulfate Soils

10 Nelson Short Street, Potts Hill, NSW 2143

Standard Local Environmental Plan Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

Soil Class	Description	LEP
N/A		

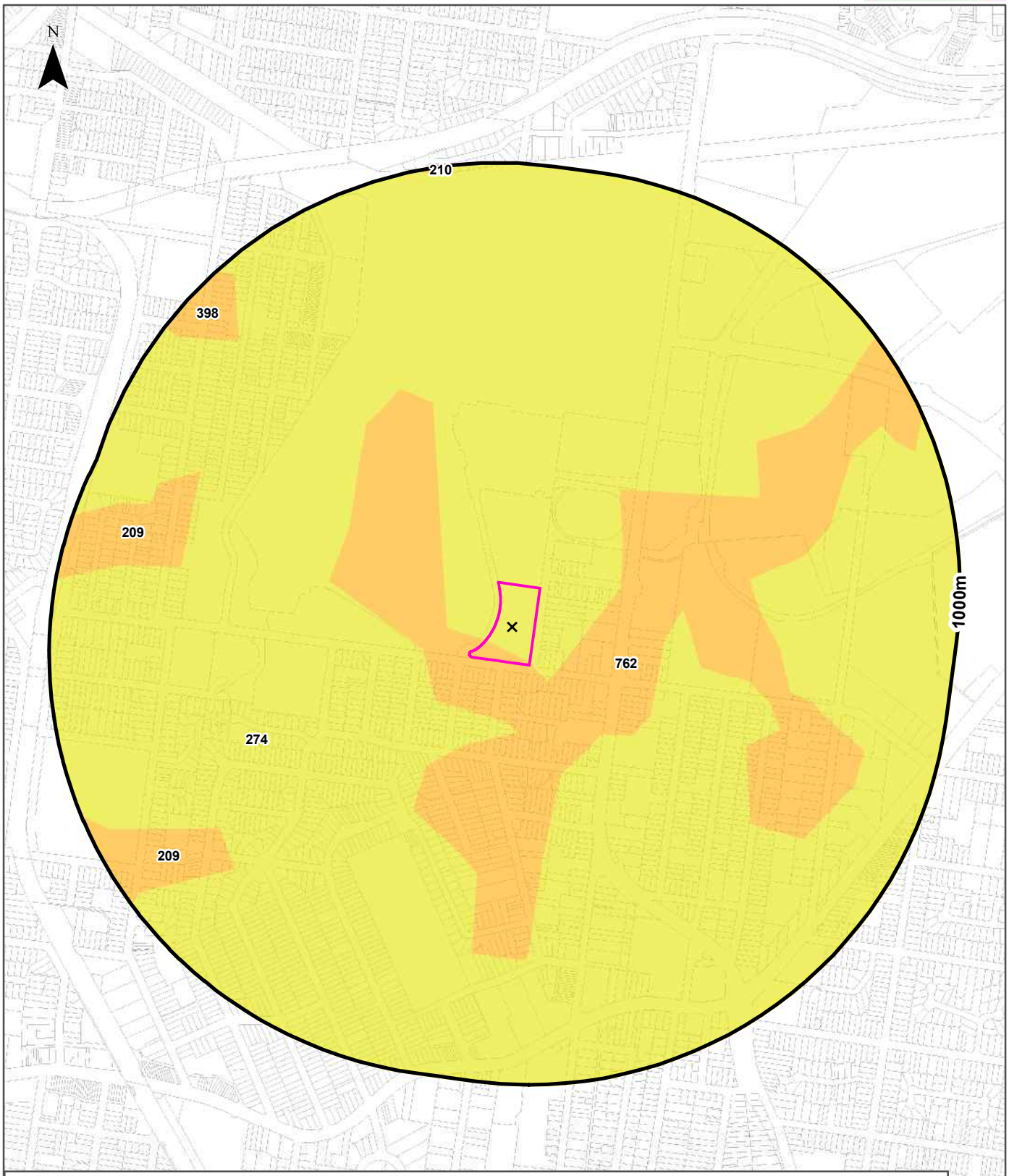
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	LEP	Distance	Direction
N/A				

Acid Sulfate Data Source Accessed 07/10/2016: NSW Crown Copyright - Planning and Environment
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Dryland Salinity

10 Nelson Short Street, Potts Hill, NSW 2143



Legend

- Site Centre
- Site Boundary
- Report Buffer
- Property Boundary

Dryland Salinity - National Assessment

- Delineated risk area but no high hazard or risk rating for either 2000, 2020, 2050
- High hazard or risk in 2050 only
- High hazard or risk defined for 2050, but no assessment made for 2000 or 2020
- High hazard or risk in 2020 and 2050
- High hazard or risk in 2000 and 2050. 2020 not defined as high hazard
- High hazard or risk defined for all years: 2000, 2020, 2050

Salinity Potential of Western Sydney

- Area of Known Salinity
- Area of High Salinity Potential
- Area of Moderate Salinity Potential
- Area of Very Low Salinity Potential
- Area of Water

Scale: 0 100 200 400 Meters

Data Sources: Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017

Coordinate System: GDA 1994 MGA Zone 56

Date: 12July 2017

Dryland Salinity

10 Nelson Short Street, Potts Hill, NSW 2143

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A	N/A	N/A

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
762	HIGH	Area of High Salinity Potential	0m	Onsite
209	HIGH	Area of High Salinity Potential	717m	North West
398	HIGH	Area of High Salinity Potential	844m	North West
210	HIGH	Area of High Salinity Potential	986m	North

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage
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Mining Subsidence Districts

10 Nelson Short Street, Potts Hill, NSW 2143

Mining Subsidence Districts

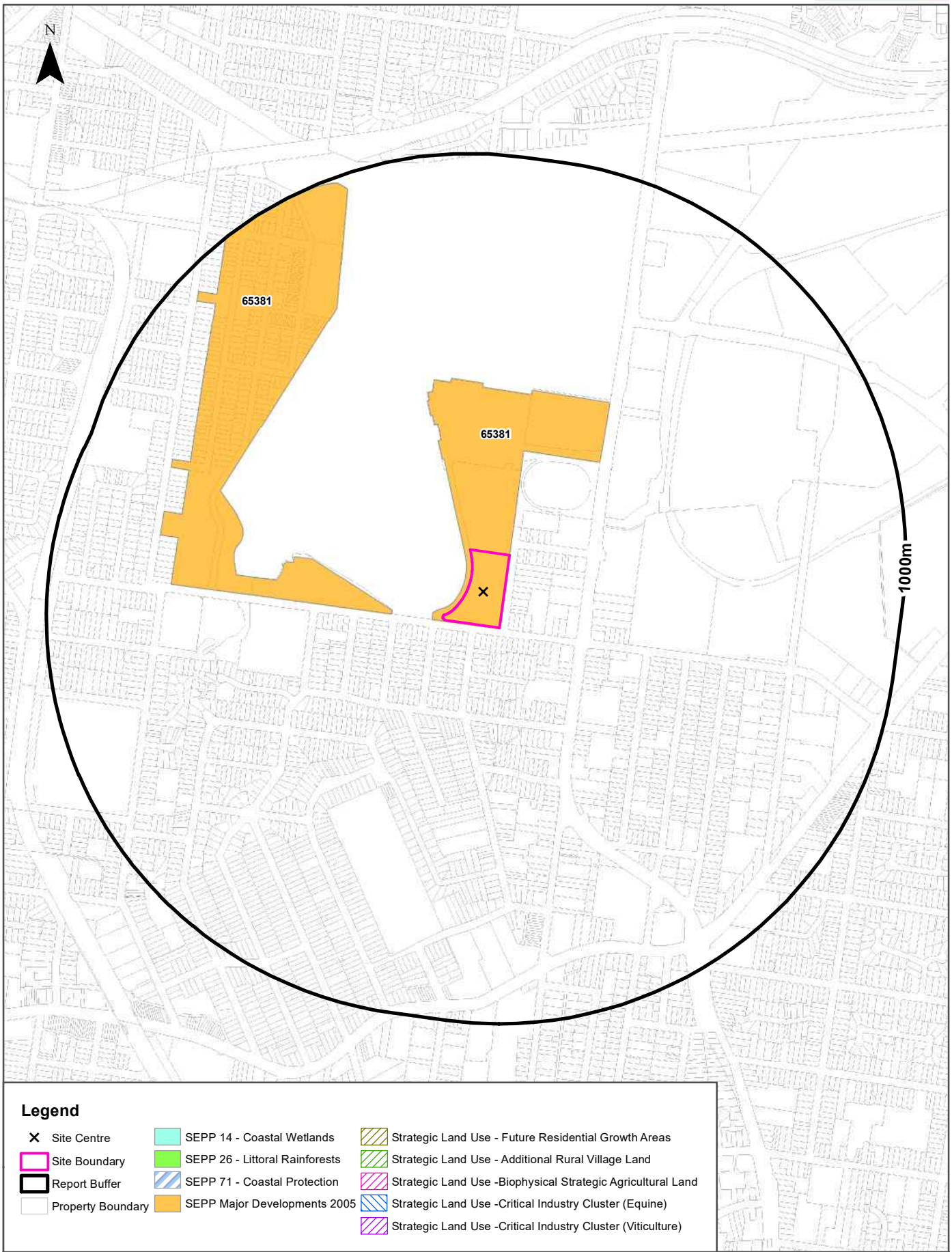
Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy

10 Nelson Short Street, Potts Hill, NSW 2143



Environmental Zoning

10 Nelson Short Street, Potts Hill, NSW 2143

State Environmental Planning Policy Protected Areas

Are there any State Environmental Planning Policy Protected Areas onsite or within the dataset buffer?

Dataset	Onsite	Within Site Buffer	Distance
SEPP14 - Coastal Wetlands	No	No	N/A
SEPP26 - Littoral Rainforests	No	No	N/A
SEPP71 - Coastal Protection Zone	No	No	N/A

SEPP Protected Areas Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Major Developments (2005)

State Environmental Planning Policy Major Developments within the dataset buffer:

Map Id	Feature	Effective Date	Distance	Direction
65381	Potts Hill Reservoirs	01/05/2009	0m	Onsite

SEPP Major Development Data Source: NSW Department of Planning & Environment
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State Environmental Planning Policy Strategic Land Use Areas

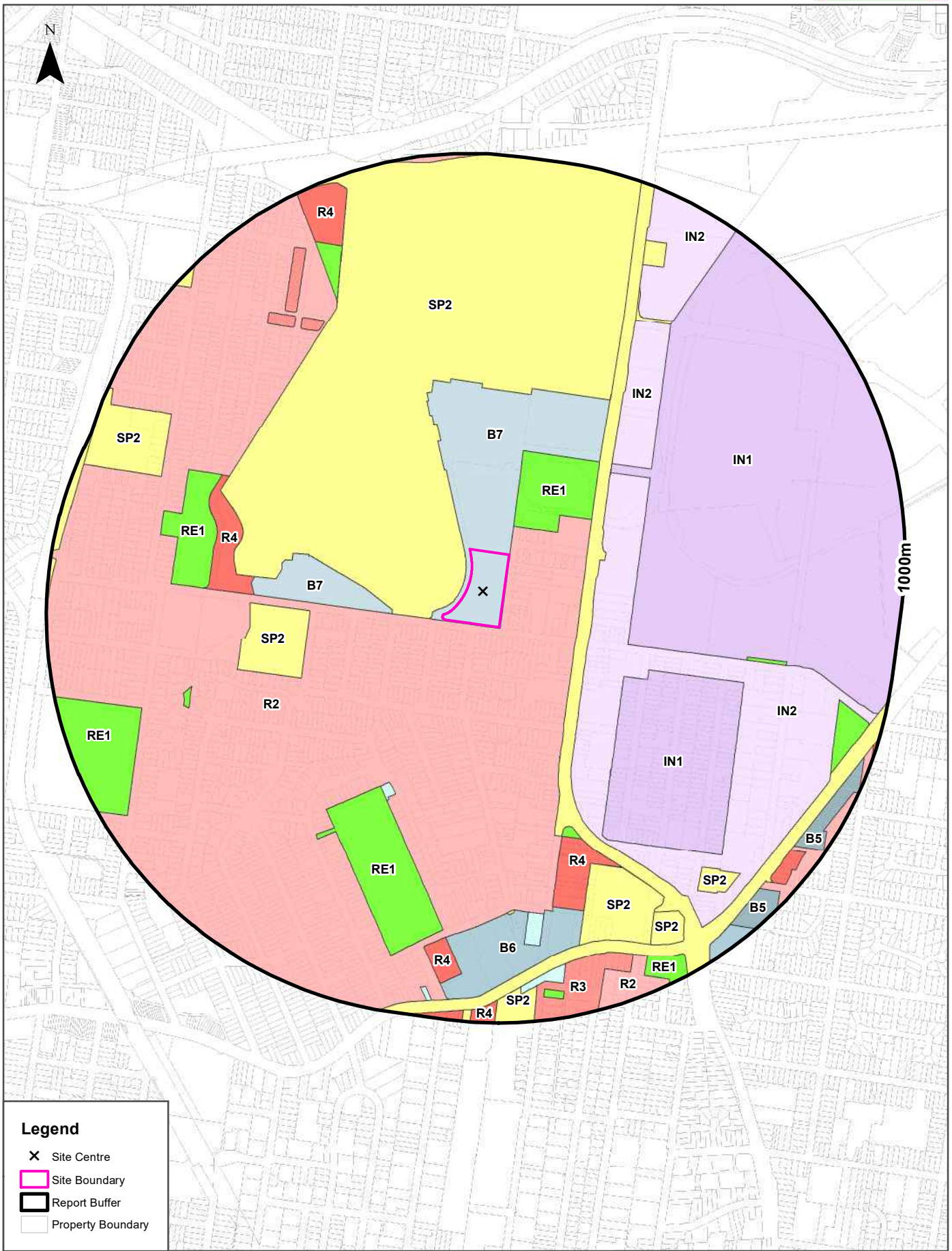
State Environmental Planning Policy Strategic Land Use Areas onsite or within the dataset buffer:

Strategic Land Use	SEPPNo	Effective Date	Amendment	Amendment Year	Distance	Direction
No records within buffer						

SEPP Strategic Land Use Data Source: NSW Department of Planning & Environment
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LEP Planning Zones

10 Nelson Short Street, Potts Hill, NSW 2143



Data Sources: Property Boundaries & Topographic Data: © Land and Property Information (a division of the Department of Finance and Services) 2017
Planning: NSW Crown Copyright - Planning & Environment

Coordinate System: GDA 1994 MGA Zone 56

Date: 12July 2017

Local Environmental Plan

10 Nelson Short Street, Potts Hill, NSW 2143

Land Zoning

What Local Environmental Plan Land Zones exist within the dataset buffer?

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
B7	Business Park		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		0m	Onsite
R2	Low Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		0m	West
SP2	Infrastructure	Water Supply System	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		15m	North
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		75m	North East
B7	Business Park		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		129m	West
SP2	Infrastructure	Road Infrastructure Facility	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		194m	South West
IN2	Light Industrial		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		225m	South East
IN1	General Industrial		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		326m	North East
IN1	General Industrial		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		336m	South East
SP2	Infrastructure	Water Supply System	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		336m	West
IN2	Light Industrial		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		347m	North East
B1	Neighbourhood Centre		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		434m	South West
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		450m	South
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		480m	West
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		530m	South
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		549m	South
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		597m	West
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		629m	East
SP2	Infrastructure	Educational Establishment	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		638m	South East
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		656m	West
R3	Medium Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		672m	North West
SP2	Infrastructure	Rail Infrastructure Facility	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		675m	North East
IN2	Light Industrial		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		688m	North East
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		712m	North West
B6	Enterprise Corridor		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		713m	South
SP2	Infrastructure	Road Infrastructure Facility	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		714m	South
R3	Medium Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		717m	North West
B1	Neighbourhood Centre		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		722m	South
R3	Medium Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		745m	North West

Zone	Description	Purpose	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
SP2	Infrastructure	Electricity Transmission & Distribution	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		792m	South East
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		793m	South
SP2	Infrastructure	Educational Establishment	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		793m	North West
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		794m	West
SP2	Infrastructure	Water Supply System	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		807m	North East
SP2	Infrastructure	Water Supply System	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		817m	South East
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		832m	North West
R3	Medium Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		859m	South
B1	Neighbourhood Centre		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		865m	South
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		876m	East
R2	Low Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		890m	South
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		909m	South East
SP2	Infrastructure	Educational Establishment	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		909m	South
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		920m	South
B1	Neighbourhood Centre		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		923m	South
R2	Low Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		924m	South East
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		924m	South East
B5	Business Development		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		925m	South East
B5	Business Development		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		929m	South East
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		940m	South
B6	Enterprise Corridor		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		949m	South East
SP2	Infrastructure	Water Supply System	Auburn Local Environmental Plan 2010	29/10/2010	29/10/2010	27/11/2015		960m	North
SP2	Infrastructure	Educational Establishment	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		967m	North West
SP2	Infrastructure	Educational Establishment	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		968m	South
SP2	Infrastructure	Rail Infrastructure Facility	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		979m	West
R2	Low Density Residential		Auburn Local Environmental Plan 2010	29/10/2010	29/10/2010	27/11/2015		983m	North
R4	High Density Residential		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		990m	East
RE1	Public Recreation		Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	07/10/2016		995m	South

Local Environment Plan Data Source: NSW Crown Copyright - Planning & Environment
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Local Environmental Plan

10 Nelson Short Street, Potts Hill, NSW 2143

Minimum Subdivision Lot Size

What are the onsite Local Environmental Plan Minimum Subdivision Lot Sizes?

Symbol	Minimum Lot Size	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Maximum Height of Building

What are the onsite Local Environmental Plan Maximum Height of Buildings?

Symbol	Maximum Height of Building	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
No Data							

Floor Space Ratio

What are the onsite Local Environmental Plan Floor Space Ratios?

Symbol	Floor Space Ratio	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
14	1.00	LEP	05/03/2015	05/03/2015	07/10/2016		99.7

Land Application

What are the onsite Local Environmental Plan Land Applications?

Application Type	LEP or SEPP	Published Date	Commenced Date	Currency Date	Amendment	Percentage of Site Area
Included	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015		100

Land Reservation Acquisition

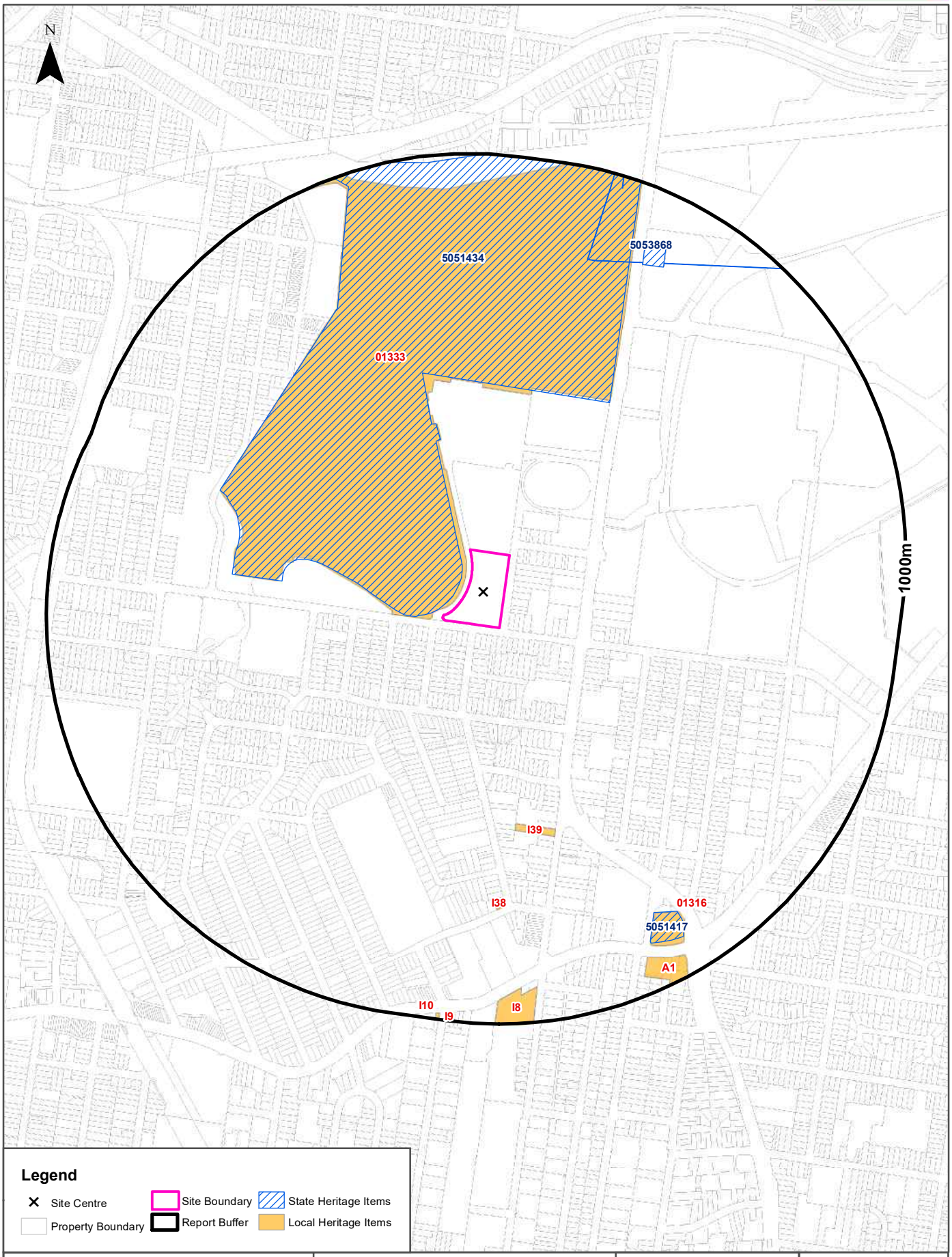
What are the onsite Local Environmental Plan Land Reservation Acquisitions?

Reservation	LEP	Published Date	Commenced Date	Currency Date	Amendment	Comments	Percentage of Site Area
No Data							

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Heritage Items

10 Nelson Short Street, Potts Hill, NSW 2143



Heritage

10 Nelson Short Street, Potts Hill, NSW 2143

State Heritage Items

What are the State Heritage Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
5051434	Potts Hill Reservoirs 1 & 2 and Site	Cooper Road, Potts Hill	Bankstown	18/11/1999	1333	2274	20m	North
5053868	Pressure Tunnel and Shafts	Potts Hill	Bankstown	15/11/2002	1630	2046	771m	East
5051417	Bankstown Reservoir (Elevated)	Beresford Avenue, Bankstown	Bankstown	18/11/1999	1316	2015	817m	South East

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Local Heritage Items

What are the Local Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	LEP or Act	Published Date	Commenced Date	Currency Date	Distance	Direction
01333	Potts Hill Reservoirs 1 and 2 and site	Item - General	State	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	15m	North
I39	House, '?? Carinya'?	Item - General	Local	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	496m	South
I38	House (former Bankstown Police Station)	Item - General	Local	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	679m	South
01316	Bankstown Reservoir	Item - General	State	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	817m	South East
A1	Site of '??Speed the Plough Inn'?	Item - Archaeological	Local	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	909m	South East
I8	St Felix de Valois Pioneer Cemetery	Item - General	Local	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	909m	South
I9	Shop	Item - General	Local	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	976m	South
I10	Shop	Item - General	Local	Bankstown Local Environmental Plan 2015	05/03/2015	05/03/2015	05/03/2015	982m	South

Heritage Data Source: NSW Crown Copyright - Planning & Environment
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Natural Hazards

10 Nelson Short Street, Potts Hill, NSW 2143

Bush Fire Prone Land

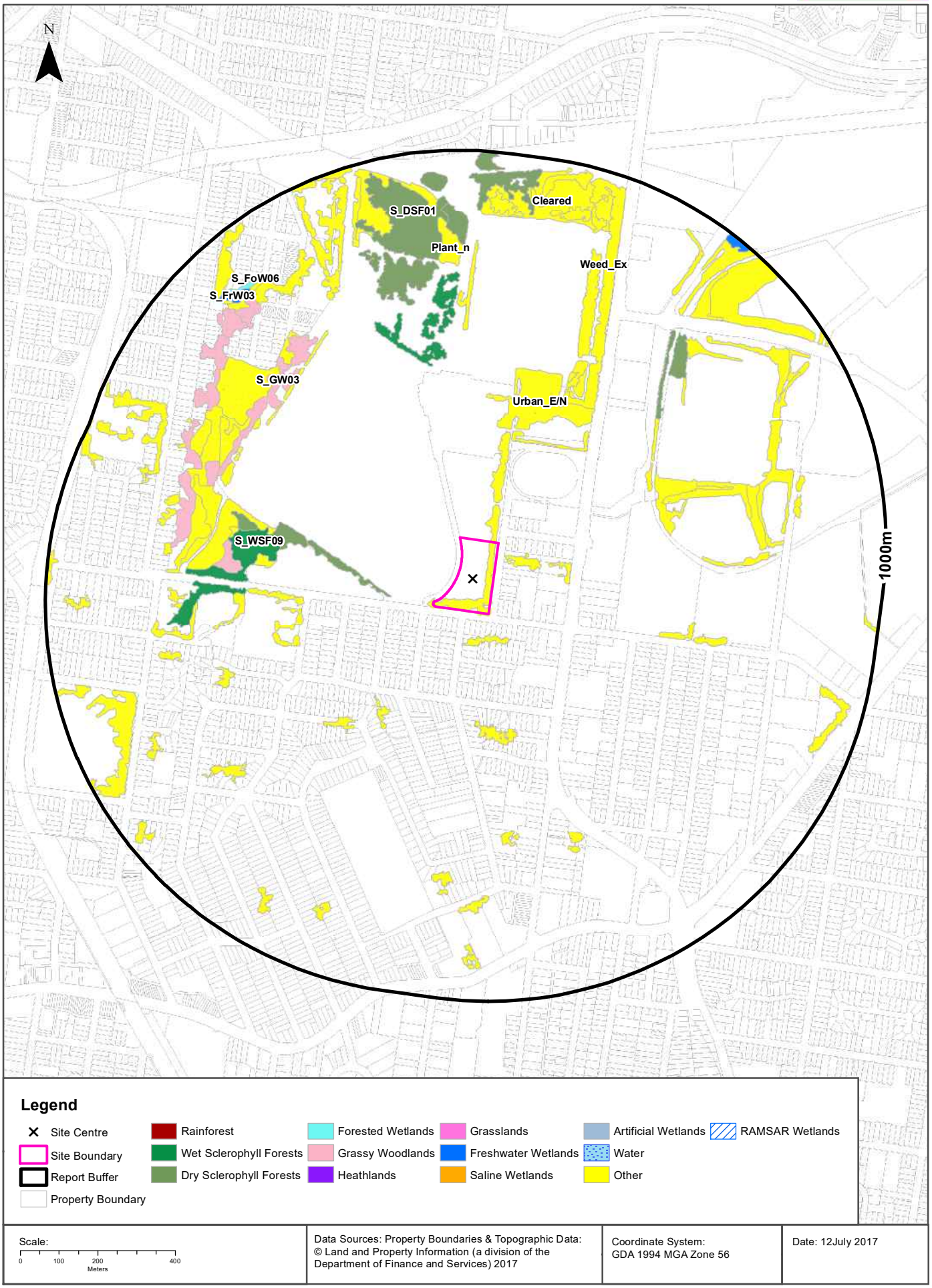
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
No records within buffer		

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints - Native Vegetation & RAMSAR Wetlands

10 Nelson Short Street, Potts Hill, NSW 2143



Ecological Constraints

10 Nelson Short Street, Potts Hill, NSW 2143

Native Vegetation

What native vegetation exists within the dataset buffer?

Map ID	Map Unit Name	Threatened Ecological Community NSW	Threatened Ecological Community EPBC Act	Understorey	Disturbance	Disturbance Index	Dominant Species	Dist	Direction
Urban_E/N	Urban_E/N: Urban Exotic/Native			00: Not assessed	00: Not assessed	0: Not assessed	Urban Exotic/Native	0m	Onsite
S_DSF01	S_DSF01: Castlereagh Ironbark Forest	Castlereagh/ Cooks River Ironbark Forest		13: Dry shrubs and grasses	19: Clearing/Part clearing	4: Very high	E.fibrosa/E.moluccanna/M.decora/E.longifolia	109m	West
Weed_Ex	Weed_Ex: Weeds and Exotics			00: Not assessed	00: Not assessed	0: Not assessed	Exotic Species >90%cover	402m	North East
S_WSF09	S_WSF09: Sydney Turpentine-Ironbark Forest	Sydney Turpentine Ironbark Forest	Turpentine Ironbark Forest (possible)	11: Semi sheltered dry/mesic	14: Canopy gaps	2: Moderate	S.glomulifera/E.fibrosa	418m	West
Cleared	Cleared			15: Grassy natives and exotics	13: Weeds	2: Moderate	Derived Grassland (Native/Exotic)	447m	West
S_GW03	S_GW03: Cumberland Shale Plains Woodland	Cumberland Plain Woodland	Cumberland Plain Woodland/ Shale Gravel Forest (possible)	13: Dry shrubs and grasses	13: Weeds	2: Moderate	E.tereticornis/E.moluccannaE.crebra/E.eugeinioides	499m	West
Plant_n	Plant_n: Plantation (native and/or exotic)			00: Not assessed	00: Not assessed	0: Not assessed	Native or Exotic Plantations	702m	North
S_FoW06	S_FoW06: Cumberland Riverflat Forest	River Flat Eucalypt Forest		20: Weeds and exotics	20: Previously cleared 1943	3: High	E.tereticornis/E.amplifolia/A.floribunda	826m	North West
S_FrW03	S_FrW03: Coastal Freshwater Wetland	Freshwater Wetlands on Coastal Floodplains		00: Not assessed	00: Not assessed	0: Not assessed	T.orientalis/fresh water sedges	832m	North West

Native Vegetation of the Sydney Metropolitan Area : NSW Office of Environment and Heritage
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RAMSAR Wetlands

What RAMSAR Wetland areas exist within the dataset buffer?

Map Id	RAMSAR Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

RAMSAR Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints

10 Nelson Short Street, Potts Hill, NSW 2143

ATLAS of NSW Wildlife

Endangered &Vulnerable Species on the ATLAS of NSW Wildlife database, within 10km of the site?

Class	Family	Scientific	Common	Exotic	NSW Status	Commonwealth Status
Amphibia	Hylidae	Litoria aurea	Green and Golden Bell Frog	No	Endangered, Protected	Vulnerable
Amphibia	Myobatrachidae	Pseudophryne australis	Red-crowned Toadlet	No	Vulnerable, Protected	
Aves	Accipitridae	Circus assimilis	Spotted Harrier	No	Vulnerable, Protected	
Aves	Accipitridae	Haliaeetus leucogaster	White-bellied Sea-Eagle	No	Vulnerable, Protected	CAMBA
Aves	Accipitridae	Hieraaetus morphnoides	Little Eagle	No	Vulnerable, Protected	
Aves	Accipitridae	Lophoictinia isura	Square-tailed Kite	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Accipitridae	Pandion cristatus	Eastern Osprey	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Anatidae	Stictonetta naevosa	Freckled Duck	No	Vulnerable, Protected	
Aves	Ardeidae	Botaurus poiciloptilus	Australasian Bittern	No	Endangered, Protected	Endangered
Aves	Ardeidae	Ixobrychus flavicollis	Black Bittern	No	Vulnerable, Protected	
Aves	Artamidae	Artamus cyanopterus cyanopterus	Dusky Woodswallow	No	Vulnerable, Protected	
Aves	Burhinidae	Burhinus grallarius	Bush Stone-curlew	No	Endangered, Protected	
Aves	Cacatuidae	Callocephalon fimbriatum	Gang-gang Cockatoo	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Charadriidae	Charadrius leschenaultii	Greater Sand-plover	No	Vulnerable, Protected	V,C,J,K
Aves	Ciconiidae	Ephippiorhynchus asiaticus	Black-necked Stork	No	Endangered, Protected	
Aves	Columbidae	Ptilinopus superbus	Superb Fruit-Dove	No	Vulnerable, Protected	
Aves	Falconidae	Falco subniger	Black Falcon	No	Vulnerable, Protected	
Aves	Laridae	Sternula albifrons	Little Tern	No	Endangered, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Meliphagidae	Anthochaera phrygia	Regent Honeyeater	No	Critically Endangered Species, Protected	Critically Endangered
Aves	Meliphagidae	Epthianura albifrons	White-fronted Chat	No	Vulnerable, Protected	
Aves	Meliphagidae	Epthianura albifrons	White-fronted Chat population in the Sydney Metropolitan Catchment Management Area	No	Endangered Population, Vulnerable, Protected	
Aves	Meliphagidae	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	No	Vulnerable, Protected	
Aves	Neosittidae	Daphoenositta chrysoptera	Varied Sittella	No	Vulnerable, Protected	
Aves	Petroicidae	Petroica boodang	Scarlet Robin	No	Vulnerable, Protected	
Aves	Petroicidae	Petroica phoenicea	Flame Robin	No	Vulnerable, Protected	
Aves	Petroicidae	Petroica rodinogaster	Pink Robin	No	Vulnerable, Protected	
Aves	Psittacidae	Glossopsitta pusilla	Little Lorikeet	No	Vulnerable, Protected	
Aves	Psittacidae	Lathamus discolor	Swift Parrot	No	Endangered, Protected, Category 3 Sensitive Species	Critically Endangered
Aves	Psittacidae	Neophema pulchella	Turquoise Parrot	No	Vulnerable, Protected, Category 3 Sensitive Species	

Class	Family	Scientific	Common	Exotic	NSW Status	Commonwealth Status
Aves	Rostratulidae	Rostratula australis	Australian Painted Snipe	No	Endangered, Protected	Endangered
Aves	Scolopacidae	Calidris ferruginea	Curlew Sandpiper	No	Endangered, Protected	CE,C,J,K
Aves	Scolopacidae	Calidris tenuirostris	Great Knot	No	Vulnerable, Protected	CE,C,J,K
Aves	Scolopacidae	Limicola falcinellus	Broad-billed Sandpiper	No	Vulnerable, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Scolopacidae	Limosa limosa	Black-tailed Godwit	No	Vulnerable, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Scolopacidae	Xenus cinereus	Terek Sandpiper	No	Vulnerable, Protected	CAMBA, JAMBA, ROKAMBA
Aves	Strigidae	Ninox strenua	Powerful Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Tytonidae	Tyto longimembris	Eastern Grass Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Aves	Tytonidae	Tyto novaehollandiae	Masked Owl	No	Vulnerable, Protected, Category 3 Sensitive Species	
Gastropoda	Camaenidae	Meridolum corneovirens	Cumberland Plain Land Snail	No	Endangered	
Mammalia	Burramyidae	Cercartetus nanus	Eastern Pygmy-possum	No	Vulnerable, Protected	
Mammalia	Dasyuridae	Dasyurus maculatus	Spotted-tailed Quoll	No	Vulnerable, Protected	Endangered
Mammalia	Emballonuridae	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	No	Vulnerable, Protected	
Mammalia	Molossidae	Mormopterus norfolkensis	Eastern Freetail-bat	No	Vulnerable, Protected	
Mammalia	Peramelidae	Perameles nasuta	Long-nosed Bandicoot population in inner western Sydney	No	Endangered Population, Protected	
Mammalia	Phascolarctidae	Phascolarctos cinereus	Koala	No	Vulnerable, Protected	Vulnerable
Mammalia	Pteropodidae	Pteropus poliocephalus	Grey-headed Flying-fox	No	Vulnerable, Protected	Vulnerable
Mammalia	Vespertilionidae	Falsistrellus tasmaniensis	Eastern False Pipistrelle	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Myotis macropus	Southern Myotis	No	Vulnerable, Protected	
Mammalia	Vespertilionidae	Scoteanax rueppellii	Greater Broad-nosed Bat	No	Vulnerable, Protected	
Flora	Anthericaceae	Caesia parviflora var. minor	Small Pale Grass-lily	No	Endangered, Protected	
Flora	Apocynaceae	Marsdenia viridiflora subsp. viridiflora	Marsdenia viridiflora R. Br. subsp. viridiflora population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas	No	Endangered Population	
Flora	Campanulaceae	Wahlenbergia multicaulis	Tadgell's Bluebell in the local government areas of Auburn, Bankstown, Baulkham Hills, Canterbury, Hornsby, Parramatta and Strathfield	No	Endangered Population	
Flora	Casuarinaceae	Allocasuarina diminuta subsp. mimica	Allocasuarina diminuta subsp. mimica L.A.S.Johnson population in the Sutherland and Liverpool local government areas	No	Endangered Population	
Flora	Casuarinaceae	Allocasuarina glareicola		No	Endangered, Protected	Endangered
Flora	Convolvulaceae	Wilsonia backhousei	Narrow-leafed Wilsonia	No	Vulnerable, Protected	
Flora	Dilleniaceae	Hibbertia puberula		No	Endangered, Protected	
Flora	Dilleniaceae	Hibbertia sp. Bankstown		No	Critically Endangered Species, Protected	Critically Endangered
Flora	Dilleniaceae	Hibbertia stricta subsp. furcatula		No	Endangered, Protected	
Flora	Elaeocarpaceae	Tetratheca glandulosa		No	Vulnerable, Protected	
Flora	Elaeocarpaceae	Tetratheca juncea	Black-eyed Susan	No	Vulnerable, Protected	Vulnerable
Flora	Ericaceae	Epacris purpurascens var. purpurascens		No	Vulnerable, Protected	

Class	Family	Scientific	Common	Exotic	NSW Status	Commonwealth Status
Flora	Ericaceae	Leucopogon exolasius	Woronora Beard-heath	No	Vulnerable, Protected	Vulnerable
Flora	Fabaceae (Faboideae)	Dillwynia tenuifolia		No	Vulnerable, Protected	
Flora	Fabaceae (Faboideae)	Pultenaea parviflora		No	Endangered, Protected	Vulnerable
Flora	Fabaceae (Faboideae)	Pultenaea pedunculata	Matted Bush-pea	No	Endangered, Protected	
Flora	Fabaceae (Mimosoideae)	Acacia bynoeana	Bynoe's Wattle	No	Endangered, Protected	Vulnerable
Flora	Fabaceae (Mimosoideae)	Acacia prominens	Gosford Wattle, Hurstville and Kogarah Local Government Areas	No	Endangered Population	
Flora	Fabaceae (Mimosoideae)	Acacia pubescens	Downy Wattle	No	Vulnerable, Protected	Vulnerable
Flora	Fabaceae (Mimosoideae)	Acacia terminalis subsp. terminalis	Sunshine Wattle	No	Endangered, Protected	Endangered
Flora	Myrtaceae	Callistemon linearifolius	Netted Bottle Brush	No	Vulnerable, Protected, Category 3 Sensitive Species	
Flora	Myrtaceae	Eucalyptus nicholii	Narrow-leaved Black Peppermint	No	Vulnerable, Protected	Vulnerable
Flora	Myrtaceae	Eucalyptus scoparia	Wallangarra White Gum	No	Endangered, Protected	Vulnerable
Flora	Myrtaceae	Melaleuca deanei	Deane's Paperbark	No	Vulnerable, Protected	Vulnerable
Flora	Myrtaceae	Syzygium paniculatum	Magenta Lilly Pilly	No	Endangered, Protected	Vulnerable
Flora	Orchidaceae	Caladenia tessellata	Thick Lip Spider Orchid	No	Endangered, Protected, Category 2 Sensitive Species	Vulnerable
Flora	Orchidaceae	Pterostylis saxicola	Sydney Plains Greenhood	No	Endangered, Protected, Category 2 Sensitive Species	Endangered
Flora	Poaceae	Deyeuxia appressa		No	Endangered, Protected	Endangered
Flora	Proteaceae	Grevillea beadleana	Beadle's Grevillea	No	Endangered, Protected, Category 3 Sensitive Species	Endangered
Flora	Proteaceae	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	No	Vulnerable, Protected	Vulnerable
Flora	Proteaceae	Persoonia hirsuta	Hairy Geebung	No	Endangered, Protected, Category 3 Sensitive Species	Endangered
Flora	Proteaceae	Persoonia nutans	Nodding Geebung	No	Endangered, Protected	Endangered
Flora	Rhamnaceae	Pomaderris prunifolia	P. prunifolia in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas	No	Endangered Population	
Flora	Thymelaeaceae	Pimelea curviflora var. curviflora		No	Vulnerable, Protected	Vulnerable
Flora	Thymelaeaceae	Pimelea spicata	Spiked Rice-flower	No	Endangered, Protected	Endangered
Flora	Zannichelliaceae	Zannichellia palustris		No	Endangered, Protected	

Data does not include records not defined as either endangered or vulnerable, and category 1 sensitive species are also excluded. NSW Office of Environment and Heritage's Atlas of NSW Wildlife, which holds data from a number of custodians. Data obtained 12/07/2017

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PLANNING CERTIFICATE

UNDER SECTION 149 (2) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Lotsearch Pty Ltd
Level 3
68 Alfred St
MILSONS POINT NSW 2061

CERTIFICATE DETAILS

NUMBER	20172695	**DATE**	12-Jul-2017

RECEIPT AND REFERENCE DETAILS

FEE	$133.00		
RECEIPT NUMBER	3647103	**RECEIPT DATE**	10-Jul-2017
REFERENCE	LS001816:32336		

PROPERTY DESCRIPTION

PROPERTY	10 Nelson Short Street, POTTS HILL NSW 2143		
TITLE	Lot 104 DP 1149790		
PARISH	Liberty Plains	**COUNTY**	CUMBERLAND

PLANNING INSTRUMENTS

In accordance with Section 149(2) and at the date of this certificate the following Environmental Planning Instruments apply to the land.

Bankstown Local Environmental Plan 2015 Gazetted on 05-Mar-2015

LAND ZONING

B7 Business Park

BANKSTOWN CUSTOMER SERVICE CENTRE
Upper Ground Floor, Civic Tower, 66-72 Rickard Road,
Bankstown NSW 2200, PO Box 8, Bankstown NSW 1885

CAMPSIE CUSTOMER SERVICE CENTRE
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SECTION 149(2) DETAILS

In accordance with section 149(2) of the Environmental Planning and Assessment Act 1979 (as amended) and at the date of this certificate, the following prescribed matters relate to the land.

1. NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

Affected by Bankstown Local Environmental Plan 2015 Amendments and Planning Proposals in respect of general information as detailed in Appendix 1.

Affected by State Environmental Planning Policies (SEPP's), Proposed State Environmental Planning Policies and Deemed State Environmental Planning Policies as detailed in Appendix 2.

Affected by Bankstown Development Control Plan 2015 (refer to Appendix 3 which lists the contents chapters within the DCP).

2. ZONING AND LAND USE UNDER RELEVANT LEPs

Unless specified otherwise in this section of the certificate, the land does not include or comprise critical habitat, is not in a conservation area and has no environmental heritage item on the land.

The purposes for which the plan or instrument provides that development may be carried out within the zone without the need for development consent are specified in clause 3.1 of the LEP 2015 plan and the land use table as detailed in Appendix 4. Reference should be made to the LEP 2015 plan as a whole for details.

The purposes for which the plan or instrument provides that development may not be carried out within the zone except with development consent are specified in Part 2 and clause 3.2 of the LEP 2015 plan and detailed in Appendix 4. Reference should be made to the LEP 2015 plan as a whole for details.

The purposes for which the plan or instrument provides that development is prohibited within the zone are specified in Part 2 and clauses 4.1A-2(c), 4.1B-2(4), 6.6 and 6.8 of the LEP 2015 plan and detailed in Appendix 4. Reference should be made to the LEP 2015 plan as a whole for details.

2A. ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

Unless specified otherwise in this section of the certificate, the land is not within any zone or land use under a Precinct Plan, a proposed Precinct Plan or Part 3 of State Environmental Planning Policy (Sydney Region Growth Centres) 2006.

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3. COMPLYING DEVELOPMENT

General Housing Code

Complying development under the General Housing Code within "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may not** be carried out on the land.
The land is non complying because the land has been identified by an environmental planning instrument as being either one of the following zones:-

- B5 Business Development, B6 Enterprise Corridor, B7 Business Park
- IN1 General Industrial, IN2 Light Industrial
- SP1 Special Activities, SP2 Infrastructure
- RE1 Public Recreation, RE2 Private Recreation
- E1 National Park and Nature Reserves
- Land unzoned under LEP 2015……*refer to the Land Zoning of this certificate on page 1.*

OR
The land is affected by one or more of the following 4 exemptions:-

- A Heritage item …….. *refer to clause 2 of this certificate,*
- Land in the 25 or higher ANEF contour …… *refer to clause 7 of this certificate,*

(Unless the development is only for the erection of ancillary development, the alteration of or an addition to ancillary development or the alteration of a dwelling house)

- Acid sulfate soils class 1 or 2 …….. *refer to clause 7 of this certificate,*
- Land in a vegetated buffer area …….. *refer to clause 7 of this certificate.*

Note: If the land has been rendered non complying due to an exemption listed above, you are advised to check with Council for the extent of the exemption. The Code may render the land complying for any land which is outside the extent of the exemption. Reference should be made to the "Planning Maps" on Council's website www.bankstown.nsw.gov.au which identifies the land exemptions.

Housing Alterations Code

Complying development under the Housing Alterations Code within the provisions of "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may not** be carried out on the land.
The land is non complying because the land has been identified by an environmental planning instrument as being either one of the following zones:-

- B5 Business Development, B6 Enterprise Corridor, B7 Business Park
- IN1 General Industrial, IN2 Light Industrial
- SP1 Special Activities, SP2 Infrastructure
- RE1 Public Recreation, RE2 Private Recreation
- E1 National Park and Nature Reserves
- Land unzoned under LEP 2015……*refer to the Land Zoning of this certificate on page 1.*

OR
The land is affected by the following exemption:-

- A Heritage item ……*refer to clause 2 of this certificate.*

Note: If the land has been rendered non complying due to an exemption listed above, you are advised to check with Council for the extent of the exemption. The Code may render the land complying for any land which is outside the extent of the exemption. Reference should be made to the "Planning Maps" on Council's website www.bankstown.nsw.gov.au which identifies the land exemptions.

Subdivisions Code (strata subdivision)

Complying development under the Subdivisions Code within "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may** be carried out on the land.

Rural Housing Code

Complying development under the Rural Housing Code within "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may not** be carried out on the land.
The land is non complying because the land has been identified by an environmental planning instrument as being either one of the following zones:-

- R2 Low Density Residential, R3 Medium Density Residential, R4 High Density Residential
- B1 Neighbourhood Centre, B2 Local Centre, B4 Mixed Use, B5 Business Development, B6 Enterprise Corridor, B7 Business Park
- IN1 General Industrial, IN2 Light Industrial
- SP1 Special Activities, SP2 Infrastructure
- RE1 Public Recreation, RE2 Private Recreation

PLANNING CERTIFICATE

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- E1 National Park and Nature Reserves
- Land unzoned under LEP 2015……*refer to the Land Zoning of this certificate on page 1.*

OR

The land is affected by one or more of the following 4 exemptions:-

- A Heritage item …….. *refer to clause 2 of this certificate,*
- Land in the 25 or higher ANEF contour…. …… *refer to clause 7 of this certificate,*

(Unless the development is only for the erection of ancillary development, the alteration of or an addition to ancillary development or the alteration of a dwelling house)

- Acid sulfate soils class 1 or 2 …….. *refer to clause 7 of this certificate,*
- Land in a vegetated buffer area …….. *refer to clause 7 of this certificate,*

Note: If the land has been rendered non complying due to an exemption listed above, you are advised to check with Council for the extent of the exemption. The Code may render the land complying for any land which is outside the extent of the exemption. Reference should be made to the "Planning Maps" on Council's website www.bankstown.nsw.gov.au which identifies the land exemptions.

General Development Code
Complying development under the General Development Code within "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may** be carried out on the land.

Demolition Code
Complying development under the Demolition Code within "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may** be carried out on the land.

Fire Safety Code
Complying development under the Fire Safety Code within "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may** be carried out on the land.

Commercial and Industrial Alterations Code
Complying development under the Commercial and Industrial Alterations Code within the provisions of "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may** be carried out on the land.

Commercial and Industrial (New Buildings and Additions) Code
Complying development under the Commercial and Industrial (New Buildings and Additions) Code within the provisions of "State Environmental Planning Policy (Exempt and Complying Development Codes) 2008" **may** be carried out on the land.

4. COASTAL PROTECTION

Unless specified otherwise in this section of the certificate, the land is not affected by the operation of Section 38 or 39 of the Coastal Protection Act 1979.

4A. CERTAIN INFORMATION RELATING TO BEACHES AND COASTS

Unless specified otherwise in this section of the certificate, the land is not subject to an order under Part 4D of the Coastal Protection Act 1979 in relation to temporary coastal protection works (or on public land adjacent to the land) and, Council has not been notified under Section 55X of the Coastal Protection Act 1979 that temporary coastal protection works have been placed on the land (or on public land adjacent to the land).

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4B. ANNUAL CHARGES UNDER LOCAL GOVERNMENT ACT 1993 FOR COASTAL PROTECTION SERVICES THAT RELATE TO EXISTING COASTAL PROTECTION WORKS

Unless specified otherwise in this section of the certificate, the owner (or any previous owner) has not consented in writing that the land is subject to annual charges under Section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works.

5. MINE SUBSIDENCE

Not affected by Section 15 of the Mine Subsidence Compensation Act 1961, proclaiming land to be a mine subsidence district.

6. ROAD WIDENING AND REALIGNMENT

Not affected by any road widening or road realignment under (1) Division 2 of part 3 of the Roads Act 1993; or (2) any Environmental Planning Instrument; or (3) any resolution of Council. However, should your property be near an arterial or main road you should check with the Roads and Maritime Services for possible affectations.

7. COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

Unless specified otherwise in this section of the certificate, the land is not affected by policies adopted by Council or by any other authority (that has notified Council of its adoption) that restricts development of the land. For bush fire prone land refer to section 11. For flood prone land refer to section 7A.

Affected by a resolution of Council adopting a policy concerning the management of contaminated land. That policy applies to all land in the City of Canterbury-Bankstown and will restrict development of the land if the circumstances set out in the policy prevail. A copy of the policy is available on Council's website at www.bankstown.nsw.gov.au or from the Customer Service Area.

Note: Additional information regarding contaminated land matters for this property may also be provided on part 5 of this section 149 planning certificate. For further information contact Council on 9707 9000.

7A. FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

Unless specified otherwise in this section of the certificate, the land is not affected by flood related development controls.

8. LAND RESERVED FOR ACQUISITION

Not affected by either an Environmental Planning Instrument or proposed Environmental Planning Instrument referred to in clause 5.1 providing for the acquisition of the land or part of the land by a public authority, as referred to in Section 27 of the Environmental Planning & Assessment Act. Reference should be made to the LEP 2015 plan as a whole for details.

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9. CONTRIBUTION PLANS

Affected by Bankstown City Council Section 94A Development Contributions Plan 2009 which allows Council to impose a levy on development within the City of Canterbury-Bankstown in accordance with Directions issued by the Minister for Planning. The levy will be spent on the provision of public works and infrastructure. Date of commencement 8th June 2009. For further details on the plan contact Council on 9707 9000 or visit Council's website – www.bankstown.nsw.gov.au

9A. BIODIVERSITY CERTIFIED LAND

Unless specified otherwise in this section of the certificate, the land is not biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995.

10. BIOBANKING AGREEMENTS

Unless specified otherwise in this section of the certificate, the land is not subject to a Biobanking Agreement under Part 7A of the Threatened Species Conservation Act 1995, made by the Department of Environment, Climate Change and Water that has notified Council of the existence of the agreement.

11. BUSHFIRE PRONE LAND

Unless specified otherwise in this section of the certificate, the land is not bushfire prone.

12. PROPERTY VEGETATION PLANS

Unless specified otherwise in this section of the certificate, the land is not subject to a Property Vegetation Plan under the Native Vegetation Act 2003, as approved by any other authority that has notified Council of the existence of the plan.

13. ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

Unless specified otherwise in this section of the certificate, the land is not subject to a Tree Order under the Trees (Disputes Between Neighbours) Act 2006, made by an authority that has notified Council of the existence of the order.

14. DIRECTIONS UNDER PART 3A

Unless specified otherwise in this section of the certificate, the land is not subject to a Direction by the Minister under section 75P (2) (c1) of the Act that a provision of an EPI does not have an effect.

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UNDER SECTION 149 (2) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

15. SITE COMPATIBILITY CERTIFICATES & CONDITIONS FOR SENIORS HOUSING

Unless specified otherwise in this section of the certificate, the land is not subject to a development application granted after 12.10.2007 under SEPP (Housing for Seniors or People with a Disability) 2004 setting out the terms of any conditions imposed under clause 18(2) or a current site compatibility certificate issued under clause 25 of the SEPP.

16. SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

Unless specified otherwise in this section of the certificate, the land is not subject to a development application under clause 19 of SEPP (Infrastructure) 2007 where a valid site compatibility certificate has been issued.

17. SITE COMPATIBILITY CERTIFICATES & CONDITIONS FOR AFFORDABLE RENTAL HOUSING

Unless specified otherwise in this section of the certificate, the land is not subject to a development application under SEPP (Affordable Rental Housing) 2009 where a valid site compatibility certificate and conditions have been issued.

18. PAPER SUBDIVISION INFORMATION

Unless specified otherwise in this section of the certificate, the land is not subject to a paper subdivision or subdivision order.

19. SITE VERIFICATION CERTIFICATES

Unless specified otherwise in this section of the certificate, the land is not subject to a current site verification certificate of which the Council is aware in respect to Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

20. LOOSE–FILL ASBESTOS INSULATION

A residential dwelling erected on this land has not been identified in the Loose–Fill Asbestos Insulation Register as containing loose–fill ceiling insulation. Contact NSW Fair Trading for more information.

MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT, 1997

Unless specified otherwise in this section of the certificate, there are no matters arising under Section 59(2) of the Contaminated Land Management Act 1997.

The land to which this certificate relates is the subject of a site audit statement within the meaning of the *Contaminated Land Management Act 1997*. For further information contact Council on Ph.9707 9000.

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MATTERS ARISING UNDER THE NATION BUILDING AND JOBS PLAN (STATE INFRASTRUCTURE DELIVERY) ACT, 2009

Unless specified otherwise in this section of the certificate, there are no matters arising under Section 26 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009.

This completes the prescribed matters for the certificate under section 149(2) of the Environmental Planning and Assessment Act 1979, as amended. While this certificate indicates the zoning of the land, it is suggested that the relevant Planning Instrument be inspected on Council's website under Development – Planning Maps or at Council's Customer Service Centre to provide an overall view of the area and the site's surrounding zonings.

SECTION 149(5) DETAILS

At the date of this certificate, the following relevant matters are provided in good faith in accordance with the requirements of Section 149(5) of the Environmental Planning and Assessment Act 1979.

Council has selected the following matters for checking as those most likely to be of concern and do not comprise an exhaustive list. The absence of any reference to any matter affecting the land shall not imply that any matter not referred to in this certificate does not affect the land.

ADDITIONAL INFORMATION

Unless specified otherwise in this section of the certificate, there are no relevant matters arising under Section 149(5) of the Environmental Planning and Assessment Act 1979.

The land to which this certificate relates is subject to the "Lot 4, Environmental Management Plan, dated 20 May 2010, prepared by AECOM". The environmental management plan has been prepared to address polycyclic aromatic hydrocarbon (PAH) contamination related risks and appropriate management of those risks during the construction and operational phase of the site.

For further information and to obtain a copy of the Environmental Management Plan, contact Council's Customer Service Unit on 9707 9000.

Please contact Council's general enquiries number listed at the bottom of this sheet for further information about any matter referred to in this certificate.

M. Ratkun

Melissa Ratkun
Manager Information Management

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Appendix 1

Bankstown Local Environmental Plan 2015 Amendments & Planning Proposals.

(relating to general information only which may affect part or the whole of the City)

Note: As of 1 July 2009, Draft LEP's have been replaced with "Planning Proposals". A planning proposal is a document that explains the intended effect of, and justification for, a proposed LEP.

Nil

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Appendix 2

State Environmental Planning Policies (SEPP's), Proposed SEPP's and Deemed SEPP's

Note: The names of the relevant instrument's plus their gazettal dates are listed below. For further details please refer to the Department of Planning website www.planning.nsw.gov.au under the heading "Planning System – Legislation and Planning Instruments".

SEPP No.19 – Bushland in Urban Areas, gazetted 24.10.1986
SEPP No.21 – Caravan Parks, gazetted 24.4.1992
SEPP No.30 – Intensive Agriculture, gazetted 8.12.1989
SEPP No.32 – Urban Consolidation (Redevelopment of Urban Land), gazetted 15.11.1991
SEPP No.33 – Hazardous and Offensive Development, gazetted 13.3.1992
SEPP No.50 – Canal Estate Development, gazetted 10.11.1997
SEPP No.55 – Remediation of Land, gazetted 28.8.1998
SEPP No.62 – Sustainable Aquaculture, gazetted 25.8.2000
SEPP No.64 – Advertising and Signage, gazetted 16.3.2001
SEPP No.65 – Design Quality of Residential Flat Development, gazetted 26.7.2002
SEPP – (Housing for Seniors or People with a Disability) 2004, gazetted 31.3.2004
SEPP – (Building Sustainability Index: BASIX) 2004, gazetted 25.6.2004
SEPP – (Major Development) 2005, gazetted 1.8.2005
SEPP – (Mining, Petroleum Production and Extractive Industries) 2007, gazetted 16.2.2007
SEPP – (Miscellaneous Consent Provisions) 2007, gazetted 26.10.2007
SEPP – (Infrastructure) 2007, gazetted 21.12.2007
SEPP – (Exempt and Complying Development Codes) 2008, gazetted 12.12.2008
SEPP – (Affordable Rental Housing) 2009, gazetted 31.7.2009
SEPP – (Sydney Drinking Water Catchment) 2011, gazetted 21.1.2011

PROPOSED SEPP - Competition SEPP, 27.7.2010

Note: As of 1 July 2009, regional environmental plans (REPs) are no longer part of the hierarchy of environmental planning instruments in NSW. The removal of the REP layer is intended to simplify the State's planning system. All existing REPs (listed below) are now deemed State environmental planning policies (SEPPs).

Deemed SEPP – Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment, gazetted 5.2.1999

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Appendix 3

Bankstown Development Control Plan 2015

DATE OF COMMENCEMENT – 13th May 2015

The following is a list of the contents within Bankstown Development Control Plan 2015. If further information is required please contact Council on 9707 9000.

INTRODUCTION	
PART A	**PRECINCT CONTROLS**
A1	Centres
A2	Corridors
A3	Key infill development sites
PART B	**GENERAL CONTROLS**
B1	Residential development
B2	Commercial centres
B3	Industrial precincts
B4	Sustainable development
B5	Parking
B6	Child care centres
B7	Educational establishments
B8	Places of public worship
B9	Sex services premises
B10	Telecommunications facilities
B11	Tree preservation order
B12	Flood risk management

Please note: Council may from time to time exhibit draft changes to the development control plan that may affect your land. To find out more, please contact Council on 9707 9000 or view Council's website and refer to the Development Control Plan - www.bankstown.nsw.gov.au

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Appendix 4

Land Use Table

Note. A type of development referred to in the Land Use Table is a reference to that type of development only to the extent it is not regulated by an applicable State environmental planning policy. The following State environmental planning policies in particular may be relevant to development on land to which this Plan applies:
State Environmental Planning Policy (Affordable Rental Housing) 2009 (including provision for secondary dwellings)
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
State Environmental Planning Policy (Infrastructure) 2007 (relating to public facilities such as those for air transport, correction, education, electricity generation, health services, ports, railways, roads, waste management and water supply systems)
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
State Environmental Planning Policy (Rural Lands) 2008
State Environmental Planning Policy No 33—Hazardous and Offensive Development
State Environmental Planning Policy No 50—Canal Estate Development
State Environmental Planning Policy No 62—Sustainable Aquaculture
State Environmental Planning Policy No 64—Advertising and Signage

Zone RU4 Primary Production Small Lots
Permitted without consent Home occupations
Permitted with consent Agriculture; Animal boarding or training establishments; Building identification signs; Business identification signs; Dwelling houses; Environmental facilities; Environmental protection works; Extensive agriculture; Farm buildings; Flood mitigation works; Intensive plant agriculture; Kiosks; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Roads; Roadside stalls; Water supply systems
Prohibited Any development not specified in item 2 or 3

Zone R2 Low Density Residential
Permitted without consent Home occupations
Permitted with consent Bed and breakfast accommodation; Boarding houses; Boat sheds; Building identification signs; Business identification signs; Car parks; Child care centres; Community facilities; Dual occupancies; Dwelling houses; Emergency services facilities; Environmental facilities; Environmental protection works; Exhibition homes; Flood mitigation works; Group homes; Health consulting rooms; Home-based child care; Hospitals; Information and education facilities; Jetties; Multi dwelling housing; Places of public worship; Public administration buildings; Recreation areas; Respite day care centres; Roads; Secondary dwellings; Semi-detached dwellings; Seniors housing; Water recreation structures; Water supply systems
Prohibited Any development not specified in item 2 or 3

Zone R3 Medium Density Residential
Permitted without consent Nil
Permitted with consent Attached dwellings; Bed and breakfast accommodation; Boarding houses; Building identification signs; Business identification signs; Car parks; Child care centres; Community facilities; Dwelling houses; Emergency services facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Group homes; Information and education facilities; Multi dwelling housing; Neighbourhood shops; Places of public worship; Public administration buildings; Recreation areas; Respite day care centres; Roads; Secondary dwellings; Seniors housing; Water supply systems
Prohibited Any development not specified in item 2 or 3

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Zone R4 High Density Residential
Permitted without consent Nil
Permitted with consent Attached dwellings; Bed and breakfast accommodation; Boarding houses; Building identification signs; Business identification signs; Car parks; Child care centres; Community facilities; Dwelling houses; Emergency services facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Information and education facilities; Multi dwelling housing; Neighbourhood shops; Places of public worship; Public administration buildings; Recreation areas; Residential flat buildings; Respite day care centres; Roads; Secondary dwellings; Seniors housing; Serviced apartments; Shop top housing; Water supply systems
Prohibited Any development not specified in item 2 or 3

Zone B1 Neighbourhood Centre
Permitted without consent Nil
Permitted with consent Boarding houses; Building identification signs; Bulky goods premises; Business identification signs; Business premises; Car parks; Child care centres; Community facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Garden centres; Hardware and building supplies; Health services facilities; Information and education facilities; Kiosks; Landscaping material supplies; Markets; Medical centres; Neighbourhood shops; Office premises; Places of public worship; Plant nurseries; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Research stations; Residential flat buildings; Respite day care centres; Restaurants or cafes; Roads; Seniors housing; Service stations; Shop top housing; Shops; Take away food and drink premises; Timber yards; Tourist and visitor accommodation; Vehicle repair stations; Vehicle sales or hire premises; Veterinary hospitals; Water supply systems
Prohibited Any development not specified in item 2 or 3

Zone B2 Local Centre
Permitted without consent Nil
Permitted with consent Boarding houses; Building identification signs; Business identification signs; Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Information and education facilities; Medical centres; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Seniors housing; Service stations; Shop top housing; Tourist and visitor accommodation; Any other development not specified in item 2 or 4
Prohibited Agriculture; Air transport facilities; Airstrips; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Residential accommodation; Rural industries; Sewage treatment plants; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Waste or resource management facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

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Zone B4 Mixed Use

Permitted without consent

Nil

Permitted with consent

Boarding houses; Building identification signs; Business identification signs; Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Medical centres; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Seniors housing; Shop top housing; Any other development not specified in item 2 or 4

Prohibited

Agriculture; Air transport facilities; Airstrips; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Highway service centres; Home occupations (sex services); Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Residential accommodation; Resource recovery facilities; Rural industries; Sewage treatment plants; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Warehouse and distribution centres; Waste disposal facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

Zone B5 Business Development

Permitted without consent

Nil

Permitted with consent

Building identification signs; Bulky goods premises; Business identification signs; Business premises; Child care centres; Food and drink premises; Garden centres; Hardware and building supplies; Hotel or motel accommodation; Kiosks; Landscaping material supplies; Markets; Neighbourhood shops; Office premises; Passenger transport facilities; Plant nurseries; Respite day care centres; Roads; Serviced apartments; Timber yards; Vehicle sales or hire premises; Warehouse or distribution centres; Any other development not specified in item 2 or 4

Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Home occupations (sex services); Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Residential accommodation; Resource recovery facilities; Restricted premises; Rural industries; Sewage treatment plants; Sex services premises; Signage; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Waste disposal facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

Zone B6 Enterprise Corridor

Permitted without consent

Nil

Permitted with consent

Building identification signs; Bulky goods premises; Business identification signs; Business premises; Community facilities; Food and drink premises; Garden centres; Hardware and building supplies; Hotel or motel accommodation; Kiosks; Landscaping material supplies; Light industries; Markets; Multi dwelling housing; Neighbourhood shops; Office premises; Passenger transport facilities; Plant nurseries; Residential flat buildings; Roads; Seniors housing; Timber yards; Vehicle sales or hire premises; Warehouse or distribution centres; Any other development not specified in item 2 or 4

Prohibited

Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Helipads; Home occupations (sex services); Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Residential accommodation; Resource recovery facilities; Restricted premises; Rural industries; Sewage treatment plants; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Waste disposal facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

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Zone B7 Business Park

Permitted without consent
Nil

Permitted with consent
Building identification signs; Business identification signs; Child care centres; Light industries; Neighbourhood shops; Office premises; Passenger transport facilities; Respite day care centres; Roads; Warehouse or distribution centres; Any other development not specified in item 2 or 4

Prohibited
Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Highway service centres; Home occupations (sex services); Industrial retail outlets; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Places of public worship; Port facilities; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Residential accommodation; Resource recovery facilities; Restricted premises; Rural industries; Service stations; Sewage treatment plants; Sex services premises; Signage; Storage premises; Tourist and visitor accommodation; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Waste disposal facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

Zone IN1 General Industrial

Permitted without consent
Nil

Permitted with consent
Agricultural produce industries; Building identification signs; Business identification signs; Depots; Food and drink premises; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Hospitals; Industrial training facilities; Kiosks; Landscaping material supplies; Light industries; Markets; Medical centres; Neighbourhood shops; Plant nurseries; Roads; Timber yards; Vehicle sales or hire premises; Warehouse or distribution centres; Any other development not specified in item 2 or 4

Prohibited
Agriculture; Air transport facilities; Airstrips; Amusement centres; Biosolids treatment facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Commercial premises; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Heavy industrial storage establishments; Home occupations (sex services); Industries; Jetties; Marinas; Mooring pens; Moorings; Open cut mining; Port facilities; Residential accommodation; Respite day care centres; Restricted premises; Rural industries; Schools; Sewage treatment plants; Signage; Tourist and visitor accommodation; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

Zone IN2 Light Industrial

Permitted without consent
Nil

Permitted with consent
Agricultural produce industries; Building identification signs; Business identification signs; Depots; Food and drink premises; Garden centres; Hardware and building supplies; Hospitals; Industrial training facilities; Kiosks; Landscaping material supplies; Light industries; Markets; Medical centres; Neighbourhood shops; Plant nurseries; Roads; Timber yards; Vehicle sales or hire premises; Warehouse or distribution centres; Any other development not specified in item 2 or 4

Prohibited
Agriculture; Air transport facilities; Airstrips; Amusement centres; Biosolids treatment facilities; Boat launching ramps; Boat sheds; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Commercial premises; Correctional centres; Crematoria; Eco-tourist facilities; Entertainment facilities; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Function centres; Health services facilities; Heavy industrial storage establishments; Helipads; Highway service centres; Home occupations (sex services); Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Port facilities; Recreation facilities (major); Residential accommodation; Resource recovery facilities; Respite day care centres; Restricted premises; Rural industries; Schools; Sewage treatment plants; Signage; Tourist and visitor accommodation; Transport depots; Truck depots; Waste disposal facilities; Water recreation structures; Water recycling facilities; Wharf or boating facilities; Wholesale supplies

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Zone SP1 Special Activities
Permitted without consent Nil
Permitted with consent The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose
Prohibited Any development not specified in item 2 or 3

Zone SP2 Infrastructure
Permitted without consent Nil
Permitted with consent Roads; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose
Prohibited Any development not specified in item 2 or 3

Zone RE1 Public Recreation
Permitted without consent Nil
Permitted with consent Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Car parks; Caravan parks; Charter and tourism boating facilities; Child care centres; Community facilities; Eco-tourist facilities; Emergency services facilities; Entertainment facilities; Environmental facilities; Environmental protection works; Extensive agriculture; Flood mitigation works; Food and drink premises; Function centres; Information and education facilities; Intensive plant agriculture; Jetties; Kiosks; Marinas; Markets; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Respite day care centres; Roads; Water recreation structures; Water supply systems; Wharf or boating facilities
Prohibited Any development not specified in item 2 or 3

Zone RE2 Private Recreation
Permitted without consent Nil
Permitted with consent Building identification signs; Business identification signs; Car parks; Community facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Helipads; Kiosks; Marinas; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Registered clubs; Roads; Water supply systems
Prohibited Any development not specified in item 2 or 3

Zone E1 National Parks and Nature Reserves
Permitted without consent Uses authorised under the National Parks and Wildlife Act 1974
Permitted with consent Nil
Prohibited Any development not specified in item 2 or 3

Zone W1 Natural Waterways
Permitted without consent Nil
Permitted with consent Boat launching ramps; Boat sheds; Charter and tourism boating facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Jetties; Marinas; Mooring pens; Moorings; Water recreation structures; Wharf or boating facilities
Prohibited Business premises; Hotel or motel accommodation; Industries; Multi dwelling housing; Recreation facilities (major); Residential flat buildings; Restricted premises; Retail premises; Seniors housing; Service stations; Warehouse or distribution centres; Any other development not specified in item 2 or 3

BANKSTOWN CUSTOMER SERVICE CENTRE
Upper Ground Floor, Civic Tower, 66-72 Rickard Road,
Bankstown NSW 2200, PO Box 8, Bankstown NSW 1885

CAMPSIE CUSTOMER SERVICE CENTRE
137 Beamish Street, Campsie NSW 2194
PO Box 77, Campsie NSW 2194

CANTERBURY-BANKSTOWN COUNCIL
ABN 45 985 891 846 P. 9707 9000 F. 9707 9700
W. cbcity.nsw.gov.au

Appendix C
SafeWork Dangerous Goods Search

NSW GOVERNMENT | SafeWork NSW

Locked Bag 2906, Lisarow NSW 2252
Customer Experience 13 10 50
ABN 81 913 830 179 | www.safework.nsw.gov.au

Our Ref: D17/190314
Your Ref: Erin Millar

11 August 2017

Attention: Erin Millar
Consulting Earth Scientists
Level 1
Suite 3
55-65 Grandview St
Pymble NSW 2073

Dear Ms Millar

RE SITE: 10 Nelson Short St Potts Hill NSW

I refer to your site search request received by SafeWork NSW on 8 August 2017 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely

Customer Service Officer
Customer Experience - Operations
SafeWork NSW

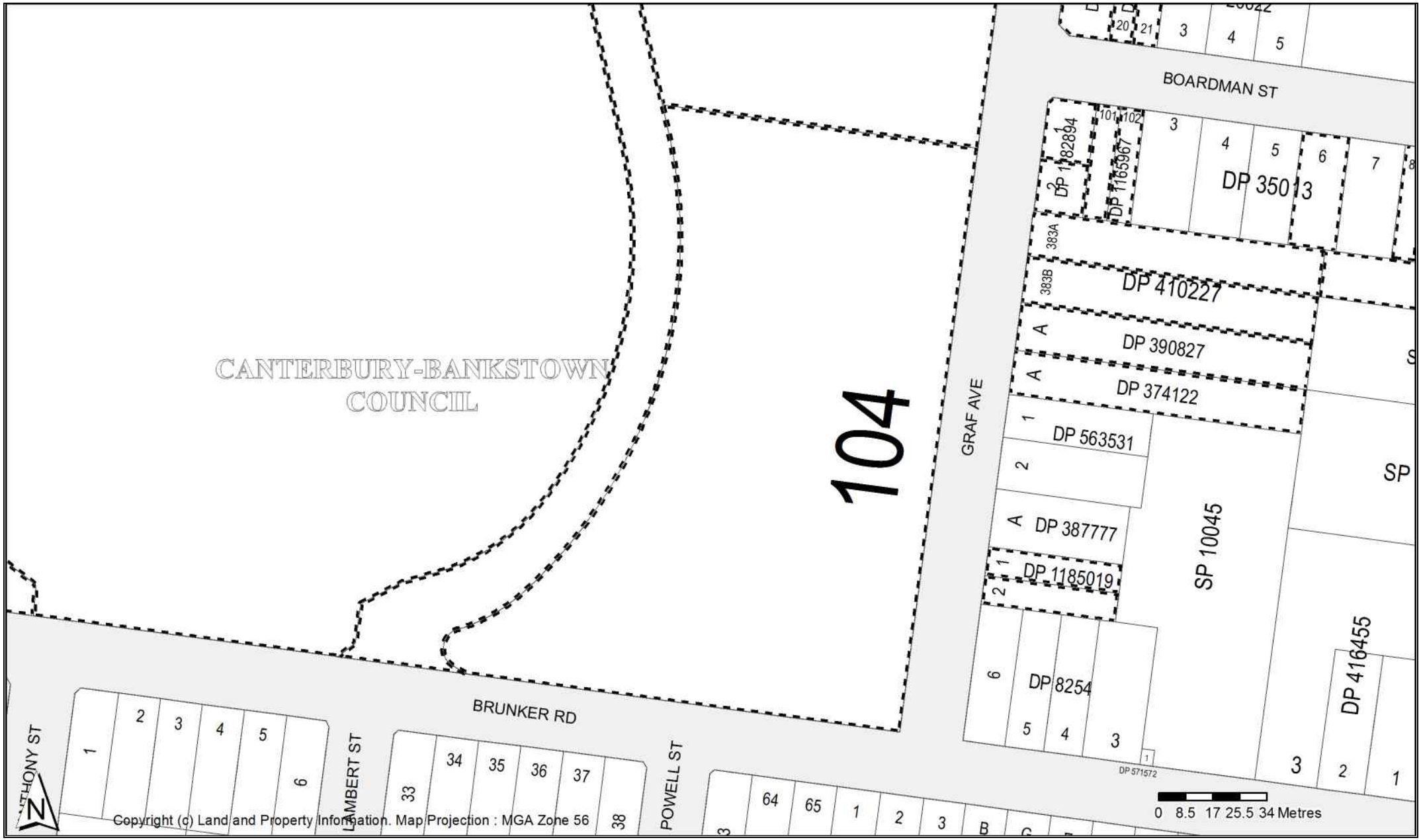
Appendix D
Historical Title Information

Cadastral Records Enquiry Report

Ref : lotsearch - potts hill

Requested Parcel : Lot 104 DP 1149790 **Identified Parcel :** Lot 104 DP 1149790

Locality : POTTS HILL **LGA :** CANTERBURY-BANKSTOWN **Parish :** LIBERTY PLAINS **County :** CUMBERLAND



Copyright © Land and Property Information ABN: 23 519 493 925

This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided. For all ACTIVITY PRIOR to SEPT 2002 you must refer to the RGs Charting and Reference Maps.

	Status	Surv/Comp	Purpose
DP26622			
Lot(s): 1			
DP1220854	PRE-ALLOCATED	UNAVAILABLE	SUBDIVISION
DP35013			
Lot(s): 6			
DP1158774	PRE-ALLOCATED	UNAVAILABLE	SUBDIVISION
DP1224343	REGISTERED	COMPILATION	EASEMENT
DP132230			
Lot(s): 2			
DP376990	HISTORICAL	COMPILATION	UNRESEARCHED
DP374122			
Lot(s): A			
DP1224343	REGISTERED	COMPILATION	EASEMENT
SP94080	PRE-ALLOCATED	UNAVAILABLE	STRATA PLAN
DP390827			
Lot(s): A			
DP1224343	REGISTERED	COMPILATION	EASEMENT
SP94080	PRE-ALLOCATED	UNAVAILABLE	STRATA PLAN
DP410227			
Lot(s): 383A, 383B			
DP1224343	REGISTERED	COMPILATION	EASEMENT
DP1109000			
Lot(s): 81, 82			
DP35013	HISTORICAL	SURVEY	SUBDIVISION
DP1119135			
Lot(s): 20, 21			
DP26622	HISTORICAL	SURVEY	UNRESEARCHED
DP1140109			
Lot(s): 1005			
DP225818	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1149790	REGISTERED	SURVEY	SUBDIVISION
DP1149790			
Lot(s): 103			
DP1176639	REGISTERED	COMPILATION	EASEMENT
Lot(s): 102, 103, 104			
DP225818	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP1140109	REGISTERED	SURVEY	SUBDIVISION
DP1153671			
Lot(s): 107			
DP225818	HISTORICAL	SURVEY	RESUMPTION OR ACQUISITION
DP456502	HISTORICAL	COMPILATION	DEPARTMENTAL
DP1140109	REGISTERED	SURVEY	SUBDIVISION
DP1149790	REGISTERED	SURVEY	SUBDIVISION
DP1199584	REGISTERED	SURVEY	EASEMENT
DP1200632	REGISTERED	SURVEY	EASEMENT
DP1165967			
Lot(s): 101, 102			
DP35013	HISTORICAL	SURVEY	SUBDIVISION
DP1182894			
Lot(s): 1, 2			
DP35013	HISTORICAL	SURVEY	SUBDIVISION
DP1185019			
Lot(s): 1, 2			
DP387777	HISTORICAL	COMPILATION	UNRESEARCHED

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Requested Parcel : Lot 104 DP 1149790 **Identified Parcel :** Lot 104 DP 1149790

Locality : POTTS HILL **LGA :** CANTERBURY-BANKS ... **Parish :** LIBERTY PLAINS **County :** CUMBERLAND

Plan	Surv/Comp	Purpose
DP8254	SURVEY	UNRESEARCHED
DP16224	SURVEY	UNRESEARCHED
DP26040	SURVEY	UNRESEARCHED
DP26622	SURVEY	UNRESEARCHED
DP35013	SURVEY	SUBDIVISION
DP132230	COMPILATION	DEPARTMENTAL
DP346678	COMPILATION	UNRESEARCHED
DP374122	COMPILATION	UNRESEARCHED
DP387777	COMPILATION	UNRESEARCHED
DP390827	COMPILATION	UNRESEARCHED
DP410227	COMPILATION	UNRESEARCHED
DP416455	SURVEY	UNRESEARCHED
DP445074	COMPILATION	UNRESEARCHED
DP445555	COMPILATION	UNRESEARCHED
DP563531	SURVEY	SUBDIVISION
DP571572	COMPILATION	SUBDIVISION
DP582403	COMPILATION	CONSOLIDATION
DP606222	COMPILATION	CONSOLIDATION
DP1109000	SURVEY	SUBDIVISION
DP1119135	SURVEY	SUBDIVISION
DP1140109	SURVEY	SUBDIVISION
DP1140109	UNRESEARCHED	SUBDIVISION
DP1149790	SURVEY	SUBDIVISION
DP1149790	UNRESEARCHED	SUBDIVISION
DP1153671	SURVEY	SUBDIVISION
DP1153671	UNRESEARCHED	SUBDIVISION
DP1165967	SURVEY	SUBDIVISION
DP1182894	SURVEY	SUBDIVISION
DP1182894	UNRESEARCHED	SUBDIVISION
DP1185019	SURVEY	SUBDIVISION
DP1185019	UNRESEARCHED	SUBDIVISION
SP10045	COMPILATION	STRATA PLAN
SP13701	COMPILATION	STRATA PLAN
SP22298	COMPILATION	STRATA PLAN

Copyright © Land and Property Information ABN: 23 519 493 925

Req:R355588 /Doc:CT 10987-017 CT /Rev:13-Jan-2011 /Sts:OK.SC /Prt:18-Sep-2015 13:43 /Pgs:ALL /Seq:1 of 2
Ref:ALS /Src:T

[redacted]

ICATE OF TITLE

[redacted]PERTY ACT, 1900, as amended.

10987017

NEW SOUTH WALES

Applns Nos.5691,10998 and 45739
Prior Titles (all as to part)

Vol. 135	Fol. 92	Vol. 759	Fol.206	Vol. 898	Fol. 93
Vol. 672	Fol. 53	Vol. 764	Fol.133	Vol. 932	Fol.126
Vol. 672	Fol.146	Vol. 764	Fol.157	Vol.1060	Fol.203
Vol. 680	Fol. 92	Vol. 784	Fol.118	Vol.1072	Fol. 18
Vol. 690	Fol. 31	Vol. 786	Fol.163	Vol.1112	Fol. 49
Vol. 700	Fol.182	Vol. 789	Fol.131	Vol.1236	Fol. 83
Vol. 730	Fol. 43	Vol. 818	Fol. 37	Vol.1485	Fol.218
Vol. 734	Fol.222	Vol. 826	Fol.224	Vol.1595	Fol.217
Vol. 736	Fol. 94	Vol. 850	Fol. 36	Vol.1723	Fol.170
Vol. 739	Fol.231	Vol. 862	Fol.209	Vol.1727	Fol. 99
Vol. 748	Fol. 96	Vol. 884	Fol.150	Vol.4139	Fol. 80
Vol. 756	Fol. 96	Vol. 887	Fol.190	Vol.4561	Fol.105

Vol. 10987 Fol. 17

EH

Vol. 10987 Fol. 17

Edition issued 14-2-1969

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness M Flint

Registrar General.

(Page 1) Vol. 10987 Fol. 17

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 225807, Lot 1 in Deposited Plan 225808, Lot 1 in Deposited Plan 225809, Lot 1 in Deposited Plan 225810, Lots 1 and 2 in Deposited Plan 225811, Lots 1 and 2 in Deposited Plan 225812, Lot 1 in Deposited Plan 225813, Lot 1 in Deposited Plan 225814, Lot 1 in Deposited Plan 225815, Lots 1, 2 and 3 in Deposited Plan 225816, Lots 1 and 2 in Deposited Plan 225817 and Lots 1 and 2 in Deposited Plan 225818 situated in the Municipalities of Auburn, Bankstown, Fairfield and Holroyd and in the City of Parramatta and also in the Parishes of Liberty Plains, Prospect and St.John in the County of Cumberland.

FIRST SCHEDULE

METROPOLITAN WATER SEWERAGE AND DRAINAGE BOARD.
~~METROPOLITAN WATER SEWERAGE AND DRAINAGE BOARD.~~

SECOND SCHEDULE

NIL.

Registrar General.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

17 V.C.N. Blight, Government Printer

Vol. 10987 Fol 17

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
NEW CERTIFICATE(S) OF TITLE ISSUING ON DP584400 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH	the within road				
Note: Land within described has been resumed on 27-9-1978 for lots in Deposited Plan 598111 as follows: Lots 1 Vol 13710 Fol 249 respectively. Various lots Vol 13710 Fol 248. REGISTRAR GENERAL					
			NEW CERTIFICATE(S) OF TITLE ISSUING ON DP 598111 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH		

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
~~Lease~~	~~L210120~~	~~11.6.1968~~	~~Of part of Lot 1 in D.P. 225818, being the land shown in plan annexed to Lease No L210120, to Regents Park Sports Club Limited~~	26.3.1969		EXPIRED	11-9-1978.	
Lease	P92354	9-5-1974	of part being Lot 1 in Deposited Plan 569687 reserving rights to The Kingergarten Union of New South Wales	16-12-1974				
TRANSFER	Q268636	———	Interest of the council of the Municipality of Holroyd in addition to existing road shown on D.P.584400. That part of the land within described SHOWN AS being "Proposed Road Widening 7.01 Wide" ~~shown~~ in D.P.584400 is now road vested in the Council of the Municipality of Holroyd.	14-7-1976				
				20-9-1977				
			The residue of land in this folio comprises road shown in D.P 598111 REGISTRAR GENERAL					

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

(Page 2 of 2 pages)

DP 569687
CT 8-5-74
N97276 Lease (Lot 1 DP569687)
P92354 Lease (Lot 1 DP569687)
CT 16-6-976
Q268636 Transfer Proposed Road
DP 598111
7-9-78
R666995 N/L (Lot 2 in plan annexed)

Req:R355588 /Doc:CT 10987-017 CT /Rev:13-Jan-2011 /Ref:ALS /Src:T /Sts:OK.SC /Prt:18-Sep-2015 13:43 /Pgs:ALL /Seq:2 of 2

Req:R355537 /Doc:CT 13710-248 CT /Rev:23-Dec-2010 /Sts:OK.SC /Prt:18-Sep-2015 13:40 /Pgs:ALL /Seq:1 of 2
Ref:ALS /Src:T

[redacted]FICATE OF TITLE

13710248

NEW SOUTH WALES

[redacted]L PROPERTY ACT, 1900

Appln. Nos.5691, 10998
and 45739

Prior Title Vol.10987 Fol.17

Vol. 13710 Fol. 248

CANCELLED EDITION ISSUED
27 9 1978

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

(Page 1) Vol. 13710 Fol. 248

PLAN SHOWING LOCATION OF LAND

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 225807, Lot 1 in Deposited Plan 225808, Lot 1 in Deposited Plan 225809, Lot 1 in Deposited Plan 225810, Lots 1 and 2 in Deposited Plan 225811, Lot 2 in Deposited Plan 225812, Lot 1 in Deposited Plan 225813, Lot 1 in Deposited Plan 225814, Lot 1 in Deposited Plan 225815, Lots 1, 2 and 3 in Deposited Plan 225816, Lots 1 and 2 in Deposited Plan 225817, Lots 1 and 2 in Deposited Plan 225818 and Lot 2 in Deposited Plan 598111 in the Municipalities of Auburn, Bankstown, Fairfield and Holroyd and the City of Parramatta, Parishes of Liberty Plains, Prospect and St.John and County of Cumberland. EXCEPTING THEREOUT the road shown in Deposited Plan 584400.

FIRST SCHEDULE

METROPOLITAN WATER SEWERAGE AND DRAINAGE BOARD.

SECOND SCHEDULE

1. P92354 Lease to The Kindergarten Union of New South Wales of part, being Lot 1 in Deposited Plan 569687 (together with rights). Expires 8-5-1989.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE.

RG 2/64

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R355537 /Doc:CT 13710-248 CT /Rev:23-Dec-2010 /Sts:OK.SC /Prt:18-Sep-2015 13:40 /Pgs:ALL /Seq:2 of 2
Ref:ALS /Src:T

Vol. 13710 Fol. 248

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General
This deed is cancelled as to the whole New Certificates of Title have issued on 9.2.1979 for lots In deposited Plan No. 59509 as follows:- Lots 1 to 2 Vol. 13796 Fol. 36 to 37 respectively. Vol. 13796 Fol. 38 for various Lots. REGISTRAR GENERAL				

D935008 P1
D P59509

NEW CERTIFICATE(S) OF TITLE ISSUING ON 27.7.2011
NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH.

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R355485 /Doc:CT 13796-038 CT /Rev:26-Apr-2007 /Sts:NO.OK /Prt:18-Sep-2015 13:38 /Pgs:ALL /Seq:1 of 2
Ref:ALS /Src:T

FICATE OF TITLE

NEW SOUTH WALES

AL PROPERTY ACT, 1900

Appln. Nos.5691,10998 & 4573
45739
Prior Title Vol.13710 Fol.248

Vol. 13796 Fol. 38

EDITION ISSUED

12 2 1979

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

~~PLAN SHOWING LOCATION OF LAND~~

CANCELLED

(Page 1) Vol. 13796 Fol. 38

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 225807, Lot 1 in Deposited Plan 225808, Lot 1 in Deposited Plan 225809, Lot 1 in Deposited Plan 225810, Lots 1 and 2 in Deposited Plan 225811, Lot 2 in Deposited Plan 225812, Lot 1 in Deposited Plan 225813, Lot 1 in Deposited Plan 225815, Lots 1, 2 and 3 in Deposited Plan 225816, Lots 1 and 2 in Deposited Plan 225817, Lots 1 and 2 in Deposited Plan 225818 and Lot 2 in Deposited Plan 598111 in the Municipalities of Auburn, Bankstown, Fairfield and Holroyd and the City of Parramatta, Parishes of Liberty Plains, Prospect and St.John and County of Cumberland. EXCEPTING THEREOUT the road shown in Deposited Plan 584400.

FIRST SCHEDULE

METROPOLITAN WATER SEWERAGE AND DRAINAGE BOARD.

SECOND SCHEDULE

1. P92354 Lease to The Kindergarten Union of New South Wales of part being Lot 1 in Deposited Plan 569687 (together with rights). Date of expiry 8-5-1989.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE.

RG 2/64

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R355485 /Doc:CT 13796-038 CT /Rev:26-Apr-2007 /Sts:NO.OK /Prt:18-Sep-2015 13:38 /Pgs:ALL /Seq:2 of 2
Ref:ALS /Src:T

Vol. 13796 Fol. 38

R 281556 (part Lot 2 in D.P. 225818)

DP 617622

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General

NEW CERTIFICATE(S) OF TITLE ISSUING ON DP 610303
NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH.

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
Resumption	R281556	The part of Lot 2 in D.P. 225818 comprised in Lot 18 in D.P. 447790 is now public road vested in The Commissioner For Main Roads	2-10-1979			

This deed is cancelled as to Whole ex Road
New certificates of Title have issued on 30-1-1981
for lots in Deposited Plan No 610303 as follows:-
Lots 1 + 2 Vol 14333 Fol 206 + 207 respectively.
+ Lots 1 DP225807 Lot 1 DP225808 Lot 1 DP225809, Lot 1 DP225810, Lots 1+2 DP225811 Lot 2 DP225812 Lot 1 DP225813 Lot 1 DP225815, Lots 1+3 DP225816, Lot 1+2 DP225817 Lot 2 DP225818, Lot 2 DP598111 — Vol 14333 Fol 208

REGISTRAR GENERAL

The residue of land in this folio comprises Road Shown in Resumption R 281556

REGISTRAR GENERAL

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R355312 /Doc:CT 14333-208 CT /Rev:16-Dec-2010 /Sts:OK.SC /Prt:18-Sep-2015 13:26 /Pgs:ALL /Seq:1 of 2
Ref:ALS /Src:T

14333208

FICATE OF TITLE

NEW SOUTH WALES

EAL PROPERTY ACT, 1900

14333 208

Vol. ..... Fol. .....

Appln. Nos.5691,10998 & 45739

Prior Title Vol.13796 Fol.38

B B

15-8-1990 EDITION ISSUED

CANCELLED R 2 2 1981

14333 Vol. 208 Fol.

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

(Page 1) Vol. .....

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 225807, Lot 1 in Deposited Plan 225808, Lot 1 in Deposited Plan 225809, Lot 1 in Deposited Plan 225810, Lots 1 and 2 in Deposited Plan 225811, Lot 2 in Deposited Plan 225812, Lot 1 in Deposited Plan 225813, Lot 1 in Deposited Plan 225815, Lots 1, 2 and 3 in Deposited Plan 225816, Lots 1 and 2 in Deposited Plan 225817, Lot 2 in Deposited Plan 225818 and Lot 2 in Deposited Plan 598111 in the Municipalities of Auburn and Holroyd and Cities of Bankstown, Fairfield and Parramatta, Parishes of Liberty Plains, Prospect and St.John and County of Cumberland. EXCEPTING THEREOUT the road shown in Deposited Plan 584400.

FIRST SCHEDULE

~~METROPOLITAN WATER SEWERAGE AND DRAINAGE BOARD.~~

SECOND SCHEDULE

1. P92354 Lease to The Kindergarten Union of New South Wales of part being Lot 1 in Deposited Plan 569687 (together with rights). Expires 8-5-1989.

THE RESIDUE WITHIN DESCRIBED IS ROAD BEING LOT 9 DP 219457

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE

21081:384

20964:1034(57)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

RG 2/64

Vol. 14333 Fol. 208
Reg:R355312 /Doc:CT 14333-208 CT /Rev:16-Dec-2010 /Sts:OK.SC /Prt:18-Sep-2015 13:26 /Pgs:ALL /Seq:2 of 2
Ref:ALS /Src:T

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General
The Commissioner for Main Roads as regards Lot 9 in DP219487 and Metropolitan Water Sewerage and Drainage Board as regards the residue by Resumption W835415. Registered 4.5.1987.				
DP/SP 774696 Registered 15.4.1988 This folio is cancelled as to ~~whole~~/part upon creation of computer folios for lots 1-2 in the abovementioned plan. 5.7.1990				
THIS FOLIO IS CANCELLED AS TO PART NEW FOLIOS HAVE BEEN CREATED FOR 1/225807, 1/225808, 1/225809, 1/225810, 1 & 2/225811, 2/225812, 1/225813, 1/225815, 1-3/225816, 1 & 2/225817 & 2/225818 26.3.1996				

CT 2-6-5
DP622918
T741258 T-G L.
LOT 9 DP 219487
Resumed + vested public roads etc Gaz. 27.2.87 Fol. 1115
WS35415 (Lot 9 DP 219487)
DP 1225816 E

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
	D.P.617624	The interest of the Council of the Municipality of Bankstown in the addition to existing road shown on DP 617624	9.7.1981			
T741258	Transfer - Easement for stormwater affecting the part of Lot 3 in D.P.225816 shown so burdened in D.P.622918 Registered 25-10-1983.					
W835415	Resumption - Part of the land within described being Lot 9 in DP219487 is now Public Road. Registered 4.5.1987.					

(Page 2 of 2 pages)

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Req:R999085 /Doc:DL AB891094 /Rev:25-Nov-2005 /Sts:NO.OK /Pgs:ALL /Prt:11-Jul-2017 09:20 /Seq:1 of 4
Ref:lotsearch - potts /Src:T

Form: 04RP
Release: 1
www.lpi.nsw.gov.au

APPLICATION TO RECORD NEW REGISTERED PROPRIETO

New South Wales
Section 46C Real Property Act 1900
Section 12(4) Trustee Act 1925

AB891094L

PRIVACY NOTE: this information is legally required and will become part of the public record

STAMP DUTY — Office of State Revenue use only

(A) **LAND** — Torrens Title: Lot 2 DP 225818

(B) **REGISTERED DEALING** — Number: | Torrens Title:

(C) **LODGED BY** — Delivery Box: 42G | Name, Address or DX and Telephone: SPARKE HELMORE LAWYERS, LLPN 123009 S, DX 282 SYDNEY, PH: 9373 3555 | Reference (optional): 984 SLN | CODE: AP

(D) **APPLICANT** — SYDNEY WATER CORPORATION ABN 49 776 225 038

(E) **PRESENT REG'D PROPRIETOR** — WATER BOARD

(F) **NEW REG'D PROPRIETOR** — SYDNEY WATER CORPORATION ABN 49 776 225 038

APPLICATION UNDER SECTION 46C REAL PROPERTY ACT 1900

In regard to the land specified above, the applicant requests the Registrar General to record the new registered proprietor on the folio of the Register, the land having vested in the new registered proprietor pursuant to:

Section 7 of the Water Board (Corporatisation) Act 1994 and section 7 of Sydney Water Corporatisation Act as outlined in Annexure A

APPLICATION UNDER SECTION 12(4) TRUSTEE ACT 1925 NOT APPLICABLE

In regard to the NOT APPLICABLE specified above, the applicant requests the Registrar General to record the new registered proprietor on the folio of the Register consequent on:

NOT APPLICABLE

DATE

Certified correct for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: STACEY NOONAN
Signatory's capacity: Applicant's solicitor

Register . Leg 16
21/11

Req:R999085 /Doc:DL AB891094 /Rev:25-Nov-2005 /Sts:NO.OK /Pgs:ALL /Prt:11-Jul-2017 09:20 /Seq:2 of 4
Ref:lotsearch - potts /Src:T

FILM WITH

AB 891094

ANNEXURE A TO THE APPLICATION TO RECORD NEW REGISTERED PROPRIETOR

STATUTORY DECLARATION

I, Stacey Noonan, of Sparke Helmore do solemnly and sincerely declare that Sydney Water Corporation ABN 49 776 225 038 is the owner of Lot 2 DP 225818 for which Water Board is noted as being the registered owner on the title deed to Lot 2 of DP 225818 on the basis of the following:

1 I am the solicitor acting for Sydney Water Corporation ABN 49 776 225 038.

2 The Water Board is noted as being the registered owner of Lot 2 in DP 225818 (the **Land**).

3 The Water Board became Sydney Water Corporation Limited under section 4 of the *Water Board (Corporatisation) Act 1994* (the **Water Board Act**).

4 Under clause 7(1) of the Water Board Act and pursuant to the Ministerial Order attached at Schedule 1, the Land was transferred from the Water Board to Sydney Water Corporation Limited.

5 Sydney Water Corporation Limited became Sydney Water Corporation under the *Sydney Water Act 1994* (the **Sydney Water Act**).

6 Under clause 7(1) of the Sydney Water Act and, pursuant to the Ministerial Order attached at Schedule 2, the Land was transferred from Sydney Water Corporation Limited to Sydney Water Corporation.

7 Therefore, the Land is now owned by Sydney Water Corporation.

And I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Oaths Act 1900.

Declared at Newcastle)
the day)
of 13 October 2005)

.....

Before me:

.....

Solicitor~~/Justice of the Peace~~

ANGELA KAZBORSEK

Req:R999085 /Doc:DL AB891094 /Rev:25-Nov-2005 /Sts:NO.OK /Pgs:ALL /Prt:11-Jul-2017 09:20 /Seq:3 of 4
Ref:lotsearch - potts /Src:T SCHEDULE 1

FILM WITH

AB 891094

NEW SOUTH WALES

WATER BOARD (CORPORATISATION) ACT 1994

ORDER UNDER SECTION 7

WHEREAS section 7 of the Water Board (Corporatisation) Act 1994 empowers me to direct by order the transfer of the business undertaking of the Water Board to the Sydney Water Corporation Limited ("the Corporation") which will be the universal successor of the Water Board and to specify the values at which assets, rights and liabilities are to be transferred.

NOW I, Robert James Webster MLC, Minister for Housing and Minister for Planning of New South Wales, do by this Order direct pursuant to section 7 of the Water Board (Corporatisation) Act 1994 that:

(a) the business undertaking of the Water Board, namely all assets, rights and liabilities thereof, be transferred to the Corporation, being the universal successor of the Water Board, upon commencement of this Order;

(b) the value of all assets, rights and liabilities comprised in the business undertaking so transferred is to be the value attributed to those assets, rights and liabilities in the finalised and audited financial statements of the Water Board, as at 31 December 1994; and

(c) in consideration of the transfer to the Corporation of the business undertaking of the Water Board, the Corporation shall within 30 days of the commencement of this Order issue shares in the Corporation to members of the Corporation (or to such other persons as the members may specify in writing) in such numbers and upon such terms as to issue price, capital, share premium and reserves as the voting shareholders of the Corporation may determine.

This Order commences on 1 January 1995.

Robert Webster

Minister for Housing and
Minister for Planning

Signed at Sydney, this 22nd day of December, 1994.

Req:R999085 /Doc:DL AB891094 /Rev:25-Nov-2005 /Sts:NO.OK /Pgs:ALL /Prt:11-Jul-2017 09:20 /Seq:4 of 4
Ref:lotsearch - potts /Src:T

SCHEDULE 2

FILM WITH
AB 891094

New South Wales

SYDNEY WATER ACT 1994
ORDER UNDER SECTION 7

Section 7 of the Sydney Water Act 1994 empowers me to direct by order the transfer of the business undertaking of Sydney Water Corporation Limited (the "Company") to Sydney Water Corporation (the "Corporation") in exchange for the issue of shares or on any other basis, and to specify the values at which the assets, rights and liabilities are to be transferred.

Now I, Craig John Knowles, Minister for Urban Affairs and Planning of the State of New South Wales, in my capacity as the Minister responsible for the administration of the Sydney Water Act 1994, do by this Order direct under section 7 of the Sydney Water Act 1994 that:

(a) Upon commencement of this Order, the business undertaking of the Company, namely all assets, rights and liabilities thereof (including, without limitation, any shares, reserves and retained profits held by or on behalf of the Company immediately before the date that this Order commences) be transferred to the Corporation, which is the universal successor of the Company. This Order does not transfer the shares in the Company held by its shareholders to the Corporation;

(b) The value of the assets, rights and liabilities comprised in the business undertaking so transferred is to be the value attributed to those assets, rights and liabilities (including, without limitation, any shares, reserves and retained profits held by or on behalf of the Company immediately before the date that this Order commences) in the general ledger and other accounts of the Company, as at 31 December 1998;

(c) The Corporation shall as soon as practicable after the commencement of this Order issue a total of 3,600,000,000 fully paid shares in the Corporation to the shareholders of the Corporation, with the result that each shareholder will hold 1,800,000,000 fully paid shares.

This Order commences on 1 January 1999.

Minister for Urban Affairs and Planning

Signed at Sydney, this 16th day of December 1998.

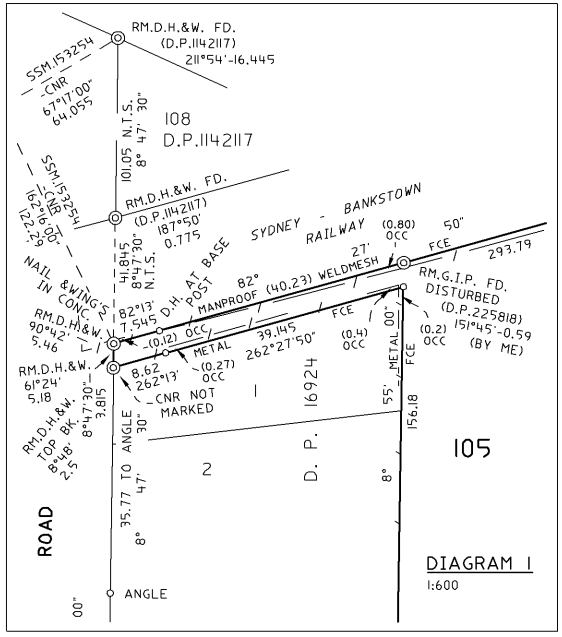
Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:1 of 11
Ref:als /Src:T

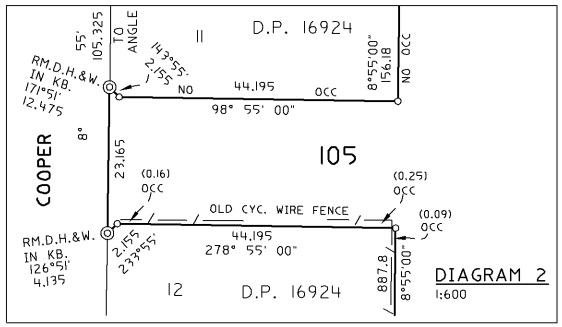
SURVEYING AND SPATIAL INFORMATION REGULATION, 2006 CLAUSE 35(I)(b) and CLAUSE 61(2)

M.G.A. CO-ORDINATES

MARK	EASTING	NORTHING	CLASS	ORDER	METHOD	ORIGIN
PM 6929	318235.835	6247331.66	C		RTK GNSS	FOUND
PM 6931	318053.03	6247356.43	C		RTK GNSS	FOUND
PM 6933	317658.444	6247425.305	B	2		SCIMS
PM 6935	317417.877	6247449.250	B	2		SCIMS
PM 111443	318129.827	6248116.213	B	2		SCIMS
SSM 83626	318643.03	6248778.12	C		RTK GNSS	FOUND
SSM 44118	317480.29	6247749.62	C		RTK GNSS	FOUND
SSM 44117	317453.74	6247580.40	C		RTK GNSS	FOUND
PM 50302	317946.219	6248465.389	B	2		SCIMS
SSM 153254	317564.358	6248616.912	C		RTK GNSS	FOUND
SSM 141312	318649.542	6248099.254	B	2		SCIMS
SSM 133978	318697.211	6248553.247	B	2		SCIMS
SSM 118854	318703.226	6248502.607	B	2		SCIMS
SSM 122292	318632.482	6247995.637	B	2		SCIMS

MGA CO-ORDINATES ADOPTED FROM S.C.I.M.S. AS AT 01 MARCH 2010
COMBINED SCALE FACTOR = 0.999999 ZONE 56





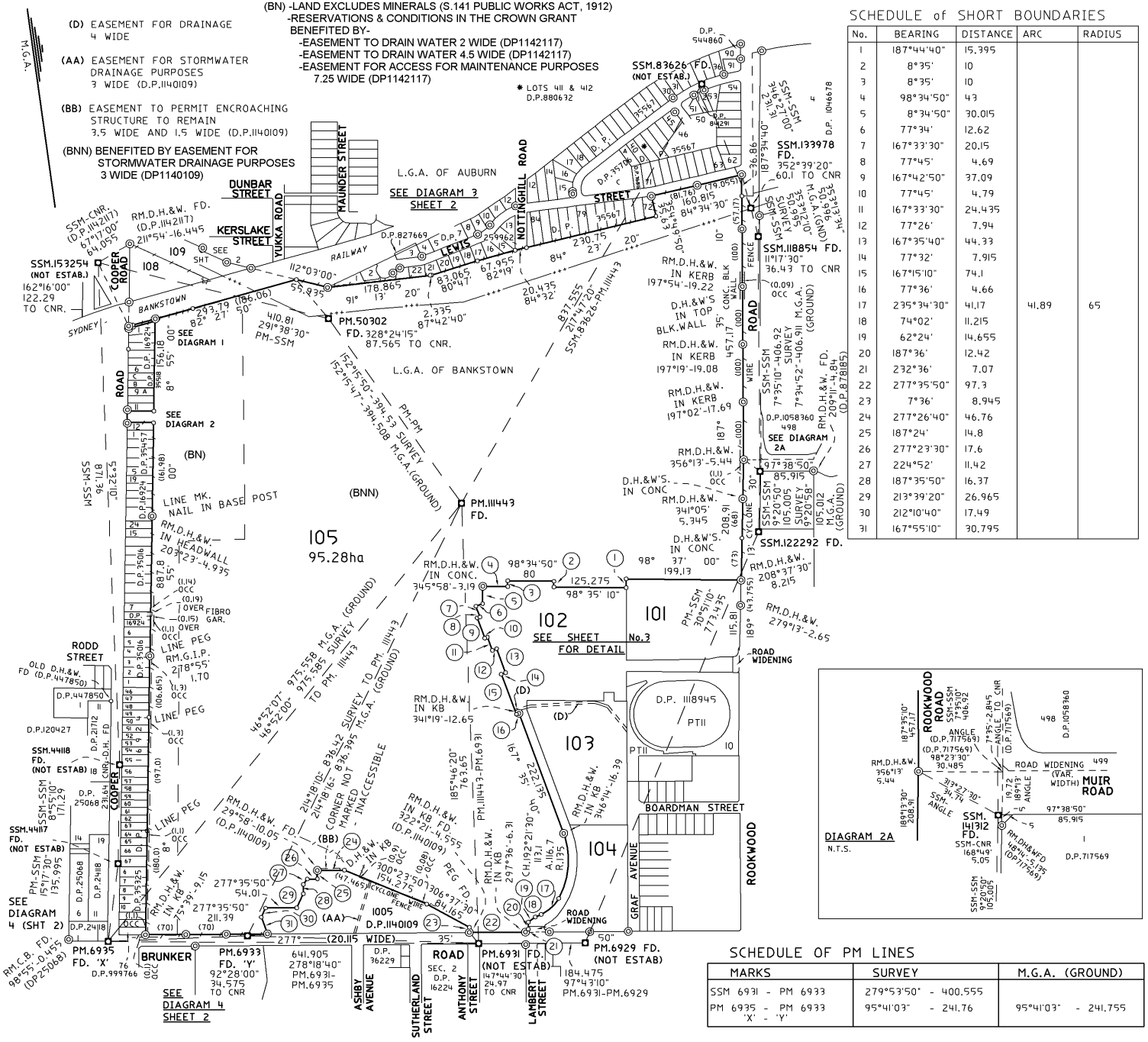
(D) EASEMENT FOR DRAINAGE 4 WIDE

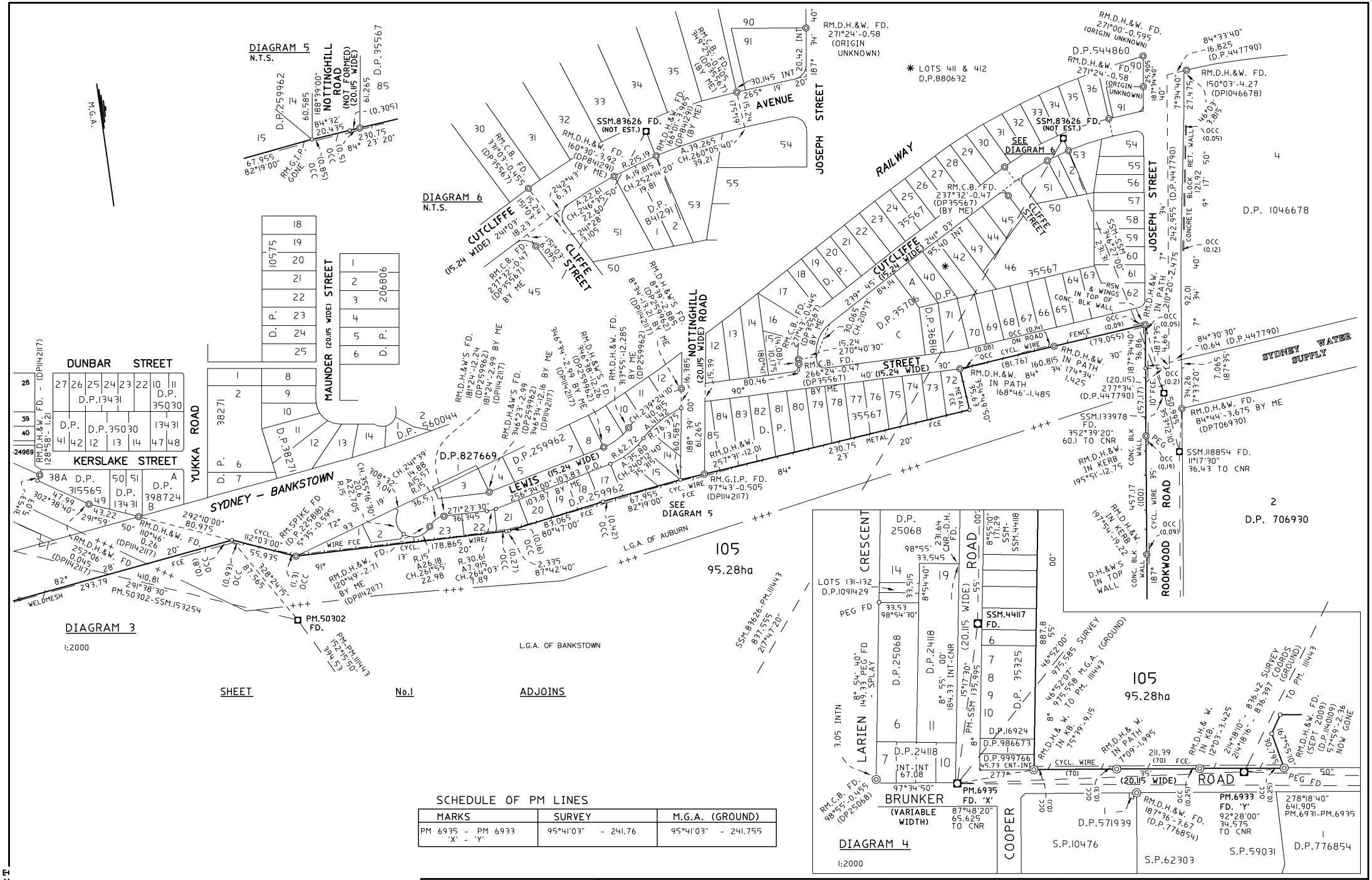
(AA) EASEMENT FOR STORMWATER DRAINAGE PURPOSES 3 WIDE (D.P.1140109)

(BB) EASEMENT TO PERMIT ENCROACHING STRUCTURE TO REMAIN 3.5 WIDE AND 1.5 WIDE (D.P.1140109)

(BNN) BENEFITED BY EASEMENT FOR STORMWATER DRAINAGE PURPOSES 3 WIDE (DP1140109)

(BN) -LAND EXCLUDES MINERALS (S.141 PUBLIC WORKS ACT, 1912)
-RESERVATIONS & CONDITIONS IN THE CROWN GRANT
BENEFITED BY-
-EASEMENT TO DRAIN WATER 2 WIDE (DP1142117)
-EASEMENT TO DRAIN WATER 4.5 WIDE (DP1142117)
-EASEMENT FOR ACCESS FOR MAINTENANCE PURPOSES 7.25 WIDE (DP1142117)


M.G.A.
* LOTS 411 & 412 D.P.880632
SSM.83626 FD. (NOT ESTAB.)
D.P. 544860
SSM.133978 FD. 352°39'20" 60.1 TO CNR
SSM.118854 FD. 36.43 TO CNR
SSM.122292 FD.
DUNBAR STREET
KERSLAKE STREET
YUKKA ROAD
HAUNDER STREET
L.G.A. OF AUBURN
SEE DIAGRAM 3 SHEET 2
NOTTINGHILL ROAD
LEWIS STREET
RAILWAY
SSM.153254 (NOT ESTAB.) 162°16'00" 122.29 TO CNR.
COOPER ROAD
BANKSTOWN SYDNEY
SEE DIAGRAM 1
PM.50302 FD. 328°24'15" 87.565 TO CNR
L.G.A. OF BANKSTOWN
SEE DIAGRAM 2
(BN)
(BNN)
LINE MK. NAIL IN BASE POST
PM.111443 FD.
105 95.28ha
RM.D.H.&W. IN HEADWALL 203°23'-4.935
152°15'50"-394.53 SURVEY PM-PM
152°15'47"-394.508 M.G.A.(GROUND)
SSM-SSM 871.36 52°32'10"
RM.D.H.&W. IN CONC. 345°58'-3.19
98°34'50" 80
125.275
98° 35' 10"
98° 37' 00" 199.13
102
SEE SHEET No.3 FOR DETAIL
101
PM-SSM 305°10" 773.495
115.81
RM.D.H.&W. 279°13'-2.65
ROAD WIDENING
RODD STREET
OLD D.H.&W. FD. (D.P.447850)
D.P.447850
D.P.120427
SSM.44118 FD. (NOT ESTAB)
SSM-SSM 8°55'10" 171.29
PM-SSM 15°17'30" 135.995
SSM.44117 FD. (NOT ESTAB)
RM.C.B. FD. 98°55'-0.455 (DP25068)
PM.6935 FD. 'X' 76
D.P.999766
BRUNKER
PM.6933 FD. 'Y' 92°28'00" 34.575 TO CNR
641.905 278°18'40" PM.6931-PM.6935
SEE DIAGRAM 4 SHEET 2
ASHBY AVENUE
SUTHERLAND STREET
ROAD SEC. 2 D.P. 16224
ANTHONY STREET
PM.6931 FD. (NOT ESTAB) 147°44'30" 24.97 TO CNR
LAMBERT STREET
184.475 97°43'10" PM.6931-PM.6929
PM.6929 FD. (NOT ESTAB)
SEE DIAGRAM 4 (SHT 2)
RM.D.H.&W. IN KB 341°19'-12.65
D.P. 1118945
PTII
103
BOARDMAN STREET
104
GRAF AVENUE
ROOKWOOD
ROAD WIDENING
1005 D.P.1140109
(AA)
(BB)
277°35'50" 54.01
277°35'50" 211.39
277° (20.115 WIDE) 35' 50"
RM.D.H.&W. FD. 29°58'-10.05 (D.P.1140109)
214°18'10": 836.542 SURVEY TO PM. 111443
214°18'16": 836.395 M.G.A. (GROUND)
CORNER NOT MARKED - INACCESSIBLE
46°52'07" 975.558 M.G.A. (GROUND)
46°52'00" 975.585 SURVEY TO PM. 111443
RM.D.H.&W. IN KB 322°21'-4.555 (D.P.1140109)
RM.D.H.&W. IN KB 346°44'-16.39
185°46'20" 763.65 PM.111443-PM.6931
RM.D.H.&W. IN KB 297°36'-6.31
CH.192°21'30" 113.1 A.116.7 R.135
300°23'50" 154.275
306°37'30" 84.162
CYCLONE WIRE FENCE
D.H.&W'S IN CONC
D.H.&W'S IN TOP BLK.WALL
RM.D.H.&W. IN KERB 197°54'-19.22
RM.D.H.&W. IN KERB 197°19'-19.08
RM.D.H.&W. IN KERB 197°02'-17.69
SSM-SSM 7°35'10" 406.92 SURVEY 7°34'52" 406.911 M.G.A. (GROUND)
SSM-SSM 9°20'50" 105.005 SURVEY 9°20'58" 105.012 M.G.A. (GROUND)
D.P.1058360
SEE DIAGRAM 2A
RM.D.H.&W. FD. 209°11'-4.84 (D.P.878185)
RM.D.H.&W. 356°13'-5.44
RM.D.H.&W. 341°05' 5.345
RM.D.H.&W. 208°37'30" 8.215
SSM-SSM 7°35'10" 406.92
SSM-SSM 9°20'50" 105.005
SSM-SSM 7°35'10" 406.92
SSM-SSM 9°20'58" 105.012



SCHEDULE OF PM LINES

MARKS	SURVEY	M.G.A. (GROUND)
PM 6935 - PM 6933 'X' - 'Y'	95°41'03" - 241.76	95°41'03" - 241.755

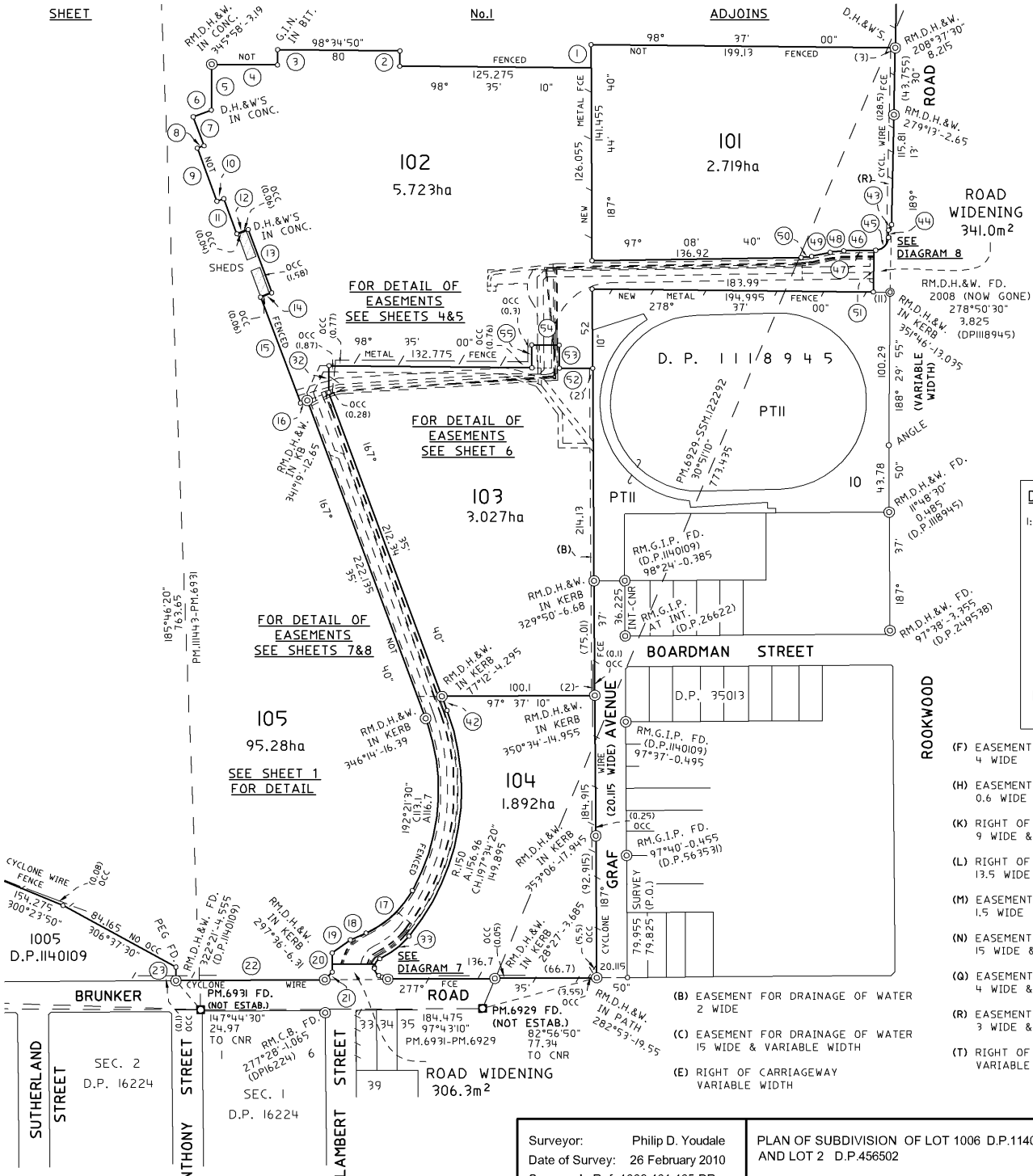
Surveyor: Philip D. Youdale Date of Survey: 26 February 2010 Surveyor's Ref: 1008-101-105-DP 2010M7100(285) Extra Sheets	PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502	LGA: BANKSTOWN /AUBURN Locality: POTTS HILL & REGENTS PARK Subdivision No: S.80/2010 Lengths are in metres. Reduction Ratio 1:2000	Registered 23.6.2010	DP1149790

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:2 of 11
Ref:ails /Src:M

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:3 of 11
Ref:als /Src:T

SHEET No.1 ADJOINS



SCHEDULE of SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RADIUS
1	187°44'40"	15.395		
2	8°35'	10		
3	8°35'	10		
4	98°34'50"	43		
5	8°34'50"	30.015		
6	77°34'	12.62		
7	167°33'30"	20.15		
8	77°45'	4.69		
9	167°42'50"	37.09		
10	77°45'	4.79		
11	167°33'30"	24.435		
12	77°26'	7.94		
13	167°35'40"	44.33		
14	77°32'	7.915		
15	167°15'10"	74.1		
16	77°36'	4.66		
17	235°34'30"	41.17	41.89	65
18	74°02'	11.215		
19	62°24'	14.655		
20	187°36'	12.42		
21	232°36'	7.07		
22	277°35'50"	97.3		
23	7°36'	8.945		

SCHEDULE of SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RADIUS
32	8°35'00"	17.535		
33	240°22'20"	24.19	24.395	54.5
34	230°01'	4.72	4.855	6
35	277°35'50"	27.91		
36	7°36'	7.42		
37	298°45'	3.85		
38	302°31'	2.47	2.475	19.5
39	335°58'	5.47	5.725	5.5
40	5°47'	0.745		
41	39°29'	6.66	7.06	6
42	347°36'	9.795		
43	217°21'00"	3.94		
44	189°13'30"	4.945		
45	233°00'20"	11.83	13.085	8.5
46	97°06'50"	20.86		
47	97°06'50"	19.905		
48	91°28'50"	8.935	8.95	45.5
49	85°50'40"	12.5		
50	91°29'40"	6.79	6.805	34.5
51	189°13'30"	27.32		
52	98°35'	21.765		
53	7°37'10"	15		
54	98°35'	18.005		
55	7°37'10"	15		

(B) EASEMENT FOR DRAINAGE OF WATER 2 WIDE

(C) EASEMENT FOR DRAINAGE OF WATER 15 WIDE & VARIABLE WIDTH

(E) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(F) EASEMENT FOR WATER SUPPLY 4 WIDE

(H) EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE & VARIABLE WIDTH

(K) RIGHT OF CARRIAGEWAY 9 WIDE & VARIABLE WIDTH

(L) RIGHT OF CARRIAGEWAY 13.5 WIDE & VARIABLE WIDTH

(M) EASEMENT FOR GAS MAIN 1.5 WIDE

(N) EASEMENT FOR DRAINAGE OF WATER 15 WIDE & VARIABLE WIDTH

(Q) EASEMENT FOR WATER SUPPLY 4 WIDE & VARIABLE WIDTH

(R) EASEMENT FOR WATER SUPPLY 3 WIDE & VARIABLE WIDTH

(T) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

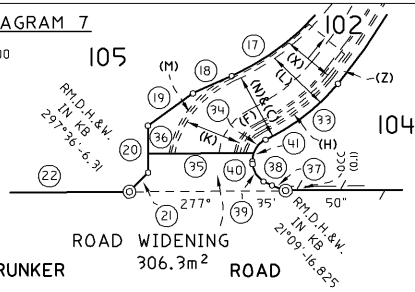
(V) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(W) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(X) RIGHT OF ACCESS VARIABLE WIDTH

(Z) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

DIAGRAM 7
1:1000



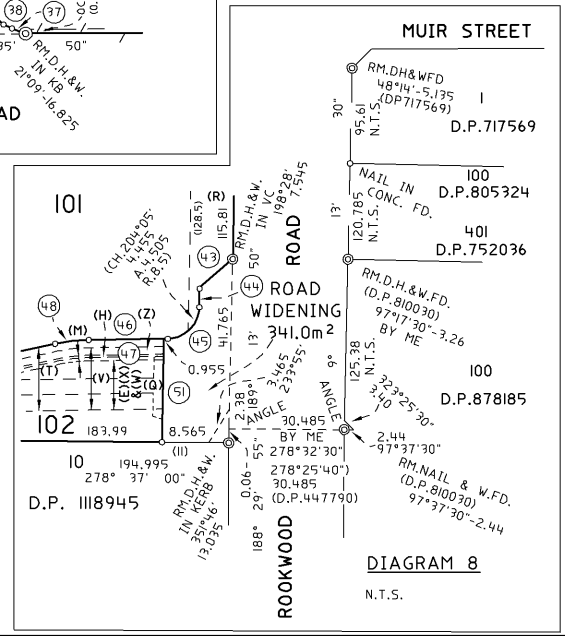


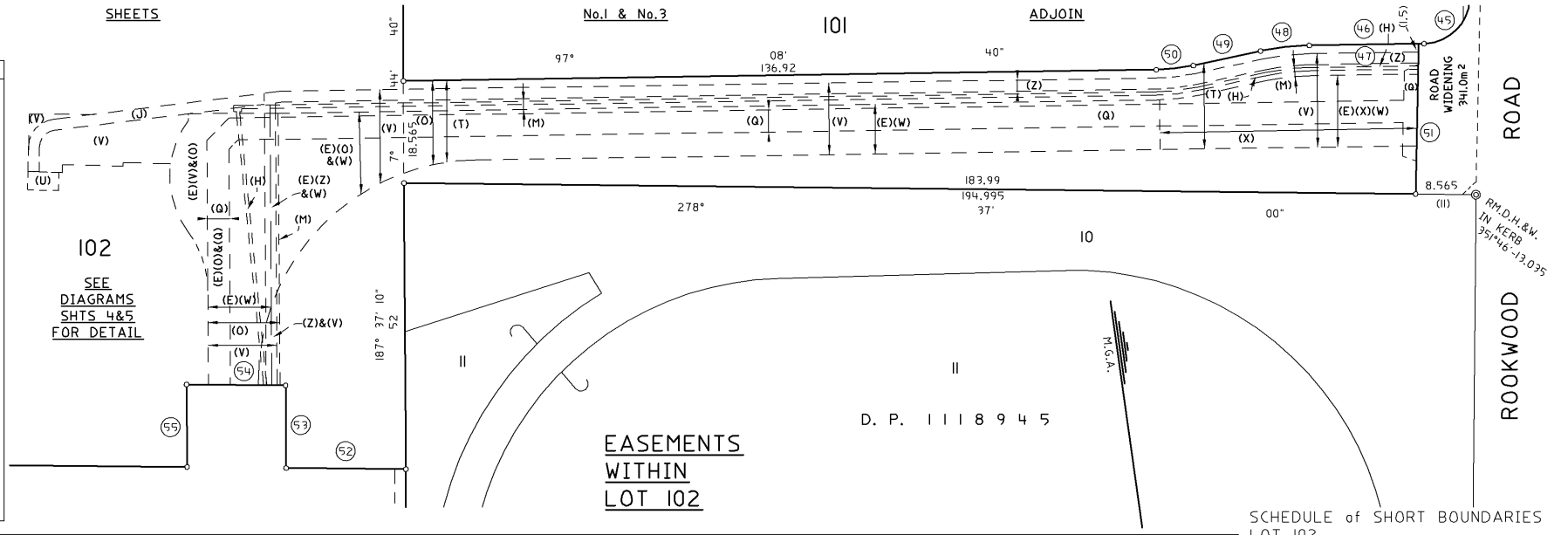
DIAGRAM 8
N.T.S.

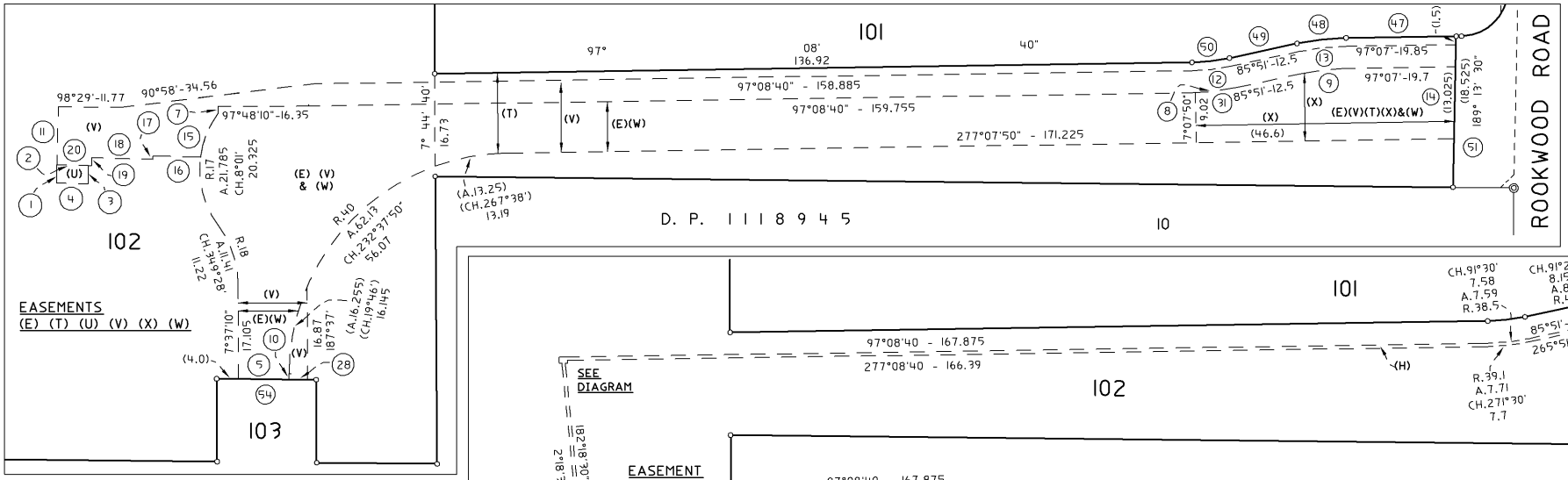
Surveyor: Philip D. Youdale Date of Survey: 26 February 2010 Surveyor's Ref: 1008-101-105-DP 2010M7100(285) Extra Sheets	PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502	LGA: BANKSTOWN /AUBURN Locality: POTTS HILL & REGENTS PARK Subdivision No: S.80/2010 Lengths are in metres. Reduction Ratio 1:2000	Registered 23.6.2010	DP1149790

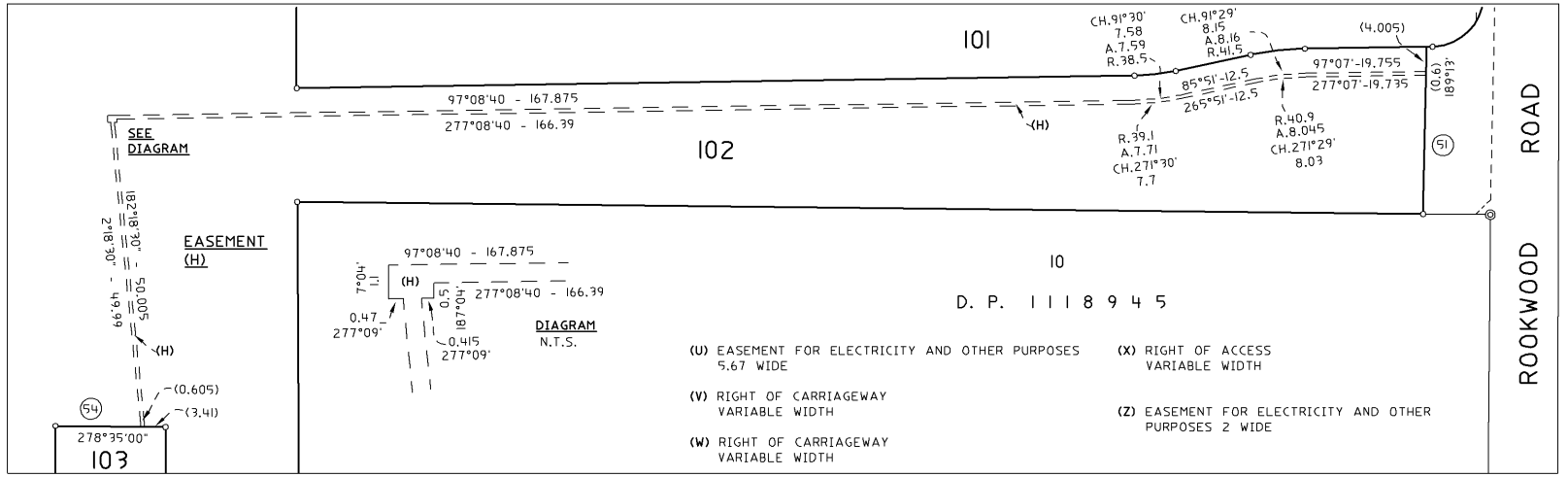
10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RADIUS
1	9°28'	3.3		
2	99°28'	5.67		
3	189°28'	3.3		
4	279°28'	5.67		
5	98°35'	9.095		
6	278°35'	8.96		
7	8°35'	1.235		
8	91°30'	7.875	7.89	40
9	91°29'	7.855	7.865	40
10	8°08'	1.03		
11	9°28'	10.5		
12	91°30'	7.085	7.1	36
13	91°29'	8.64	8.655	44
14	189°13'30"	17.025		
15	210°07'	8.575	8.67	17
16	279°28'	8.605		
17	189°28'	0.62		
18	279°28'	11.03		
19	189°28'	1.43		
20	279°28'	6.255		
28	98°35'	3.41		
29	187°37'	15		
30	278°35'	3.545		
31	91°07'	7.345	7.355	40







(E) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(H) EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE & VARIABLE WIDTH

(J) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

(M) EASEMENT FOR GAS MAIN 1.5 WIDE

(O) EASEMENT FOR SERVICES VARIABLE WIDTH

(Q) EASEMENT FOR WATER SUPPLY 4 WIDE & VARIABLE WIDTH

(T) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(U) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 5.67 WIDE

(V) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(W) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(X) RIGHT OF ACCESS VARIABLE WIDTH

(Z) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

SCHEDULE of SHORT BOUNDARIES LOT 102

No.	BEARING	DISTANCE	ARC	RADIUS
45	233°00'20"	11.83	13.085	8.5
46	97°06'50"	20.86		
47	97°06'50"	19.905		
48	91°28'50"	8.935	8.95	45.5
49	85°50'40"	12.5		
50	91°29'40"	6.79	6.805	34.5
51	189°13'30"	27.32		
52	98°35'	21.765		
53	7°37'10"	15		
54	98°35'	18.005		
55	7°37'10"	15		

Surveyor: Philip D. Youdale Date of Survey: 26 February 2010 Surveyor's Ref: 1008-101-105-DP 2010M7100(285) Extra Sheets	PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502	LGA: BANKSTOWN /AUBURN Locality: POTTS HILL & REGENTS PARK Subdivision No: S.80/2010 Lengths are in metres. Reduction Ratio 1:600	Registered 23.6.2010	DP1149790

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:4 of 11
Ref:als /Src:T

EASEMENTS WITHIN LOT 102

SCHEDULE of SHORT BOUNDARIES
LOT 102

No.	BEARING	DISTANCE	ARC	RADIUS
45	233°00'20"	11.83	13.085	8.5
46	97°06'50"	20.86		
47	97°06'50"	19.905		
48	91°28'50"	8.935	8.95	45.5
49	85°50'40"	12.5		
50	91°29'40"	6.79	6.805	34.5
51	189°13'30"	27.32		
52	98°35'	21.765		
53	7°37'10"	15		
54	98°35'	18.005		
55	7°37'10"	15		

SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RADIUS
4	98°35'00"	1.5		
5	189°13'30"	1.5		
6	271°29'	7.855	7.865	40
7	271°30'	7.875	7.89	40
8	91°30'	7.58	7.59	38.5
9	91°29'	8.15	8.16	41.5
12	98°35'00"	2		
13	189°13'30"	2		
14	277°08'40"	(1.135)		
15	229°47'20"	3.95	4.31	3
16	9°27'40"	4.59		
17	279°27'40"	2		
18	189°27'40"	4.59		
19	49°57'20"	6.56	7.155	5
20	91°30'	7.085	7.1	36
21	91°29'	8.64	8.655	44

(E) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(H) EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE & VARIABLE WIDTH

(V) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(W) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(J) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

(M) EASEMENT FOR GAS MAIN 1.5 WIDE

(O) EASEMENT FOR SERVICES VARIABLE WIDTH

(Q) EASEMENT FOR WATER SUPPLY 4 WIDE & VARIABLE WIDTH

(T) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

(U) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 5.67 WIDE

(X) RIGHT OF ACCESS VARIABLE WIDTH

(Z) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

SHEETS No.1 & No.3 ADJOIN

101 102 103 10

ROAD WIDENING 341.0m²

ROOKWOOD ROAD

D. P. 1118945

M.S.A.

EASEMENTS (J) (Q) (Z)

EASEMENTS (M) (O)

Surveyor:	Philip D. Youdale
Date of Survey:	26 February 2010
Surveyor's Ref:	1008-101-105-DP 2010M7100(285) Extra Sheets

PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502

LGA: BANKSTOWN /AUBURN
Locality: POTTS HILL & REGENTS PARK
Subdivision No: S.80/2010
Lengths are in metres. Reduction Ratio 1:600

Registered 23.6.2010

DP1149790

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:5 of 11
Ref:als /Src:M

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

EASEMENTS WITHIN LOT 103

(A) EASEMENT FOR DRAINAGE OF WATER 2 & 3 WIDE AND VARIABLE WIDTH

(B) EASEMENT FOR DRAINAGE OF WATER 2 WIDE

(D) EASEMENT FOR DRAINAGE 4 WIDE

(F) EASEMENT FOR WATER SUPPLY 4 WIDE

(G) RIGHT OF CARRIAGEWAY VARIABLE WIDTH

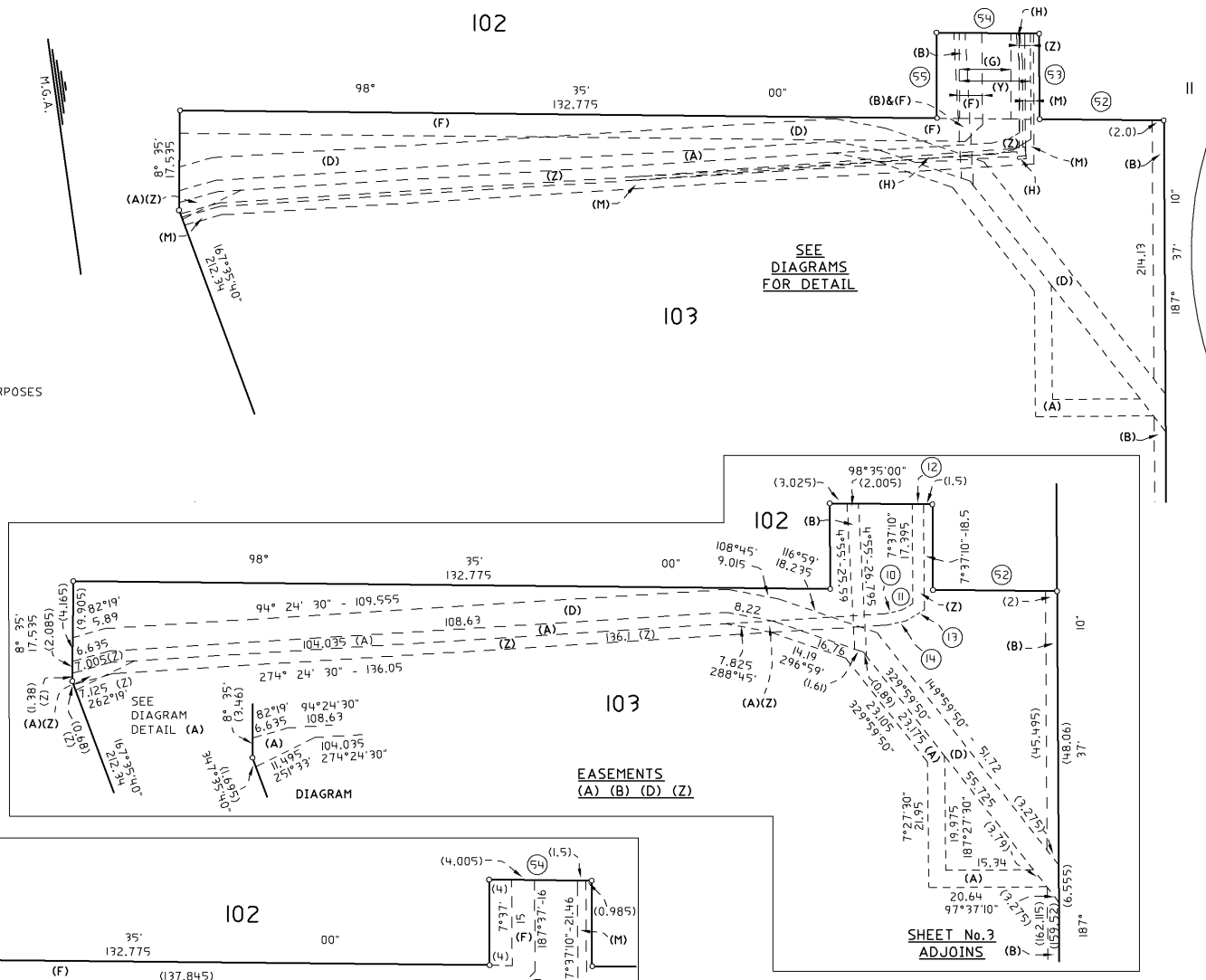
(H) EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE & VARIABLE WIDTH

(M) EASEMENT FOR GAS MAIN 1.5 WIDE

(Y) RIGHT OF CARRIAGEWAY 12.5 WIDE

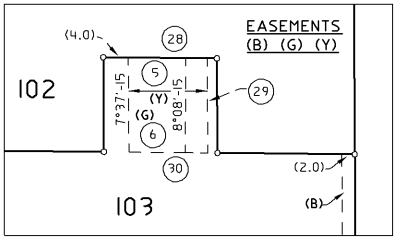
(Z) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

SHEETS No.1 & No.3 ADJOIN



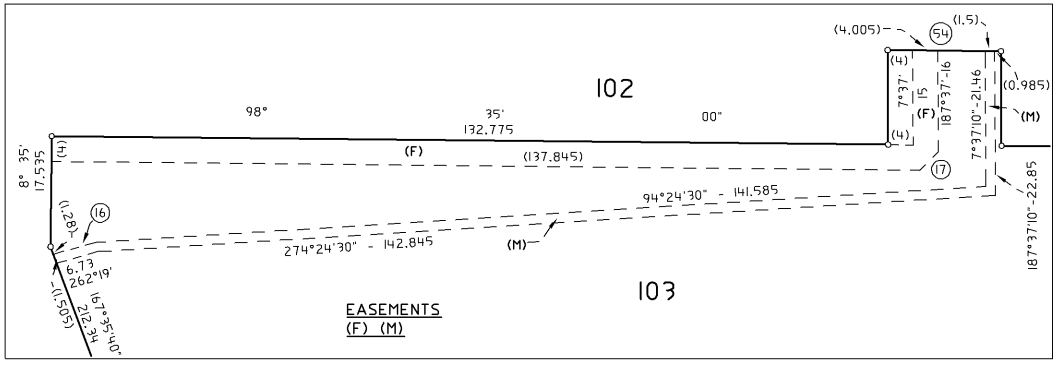
SCHEDULE of SHORT BOUNDARIES LOT 102

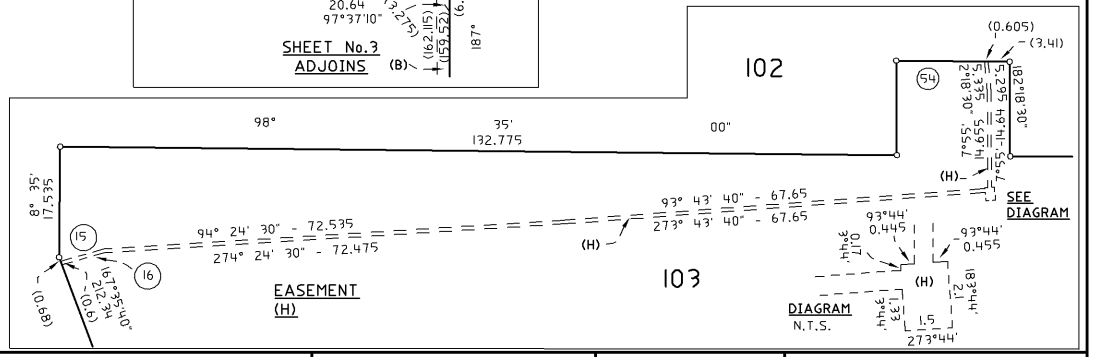
No.	BEARING	DISTANCE	ARC	RADIUS
52	98°35'	21.765		
53	7°37'10"	15		
54	98°35'	18.005		
55	7°37'10"	15		



SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	No.	BEARING	DISTANCE
5	98°35'	9.095	16	82°19'	7.01
6	278°35'	8.96	17	233°06'	4.205
10	85°05'	3.015	28	98°35'	12.505
11	66°55'	2.255	29	187°37'	15
12	98°35'	2	30	278°35'	12.505
13	246°55'	3.71			
14	265°05'	3.5			
15	82°19'	7.125			





Surveyor: Philip D. Youdale Date of Survey: 26 February 2010 Surveyor's Ref: 1008-101-105-DP 2010M7100(285) Extra Sheets	PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502	LGA: BANKSTOWN /AUBURN Locality: POTTS HILL & REGENTS PARK Subdivision No: S.80/2010 Lengths are in metres. Reduction Ratio 1:600	Registered 23.6.2010	DP1149790

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:6 of 11
Ref:als /Src:M

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:7 of 11
Ref:als /Src:M

SHEETS No.1 & No.3 ADJOIN

EASEMENTS WITHIN LOT 102

1:1250

SEE DIAGRAMS FOR DETAIL & CONTINUED ON SHEET No.8

SCHEDULE of SHORT BOUNDARIES LOT 102

No.	BEARING	DISTANCE	ARC	RADIUS
15	167°15'10"	74.1		
16	77°36'	4.66		
17	235°34'30"	41.17	41.89	65
18	74°02'	11.215		
19	62°24'	14.655		
20	187°36'	12.42		
21	232°36'	7.07		
22	277°35'50"	97.3		
23	7°36'	8.945		
33	240°22'20"	24.19	24.395	54.5
34	230°01'	4.72	4.855	6
35	277°35'50"	27.91		
36	7°36'	7.42		
37	298°45'	3.85		
38	302°31'	2.47	2.475	19.5
39	335°58'	5.47	5.725	5.5
40	5°47'	0.745		
41	39°29'	6.66	7.06	6
42	167°36'	9.795		

SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RAD.
3	347°36'	1.7		
4	82°19'	5.01		
5	188°35'	1.38		
24	277°36'	4.645		
25	77°36'	9		
26	82°19'	5.01		
27	188°35'	1.38		
28	225°49'	9.655	10.03	10.5

(AI) EASEMENT FOR SERVICES 13.5 WIDE & VARIABLE WIDTH

(C) EASEMENT FOR DRAINAGE OF WATER 15 WIDE & VARIABLE WIDTH

(D) EASEMENT FOR DRAINAGE 4 WIDE

(F) EASEMENT FOR WATER SUPPLY 4 WIDE

(H) EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE & VARIABLE WIDTH

(I) RIGHT OF CARRIAGEWAY 9 WIDE

(K) RIGHT OF CARRIAGEWAY 9 WIDE & VARIABLE WIDTH

(L) RIGHT OF CARRIAGEWAY 13.5 WIDE & VARIABLE WIDTH

(M) EASEMENT FOR GAS MAIN 1.5 WIDE

(N) EASEMENT FOR DRAINAGE OF WATER 15 WIDE & VARIABLE WIDTH

(P) RIGHT OF CARRIAGEWAY 13.5 WIDE & VARIABLE WIDTH

(S) RIGHT OF CARRIAGEWAY 13.5 WIDE & VARIABLE WIDTH

(X) RIGHT OF ACCESS VARIABLE WIDTH

(Z) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

EASEMENTS (C) (M) (N)

EASEMENTS (D) (I) (K) (L) (P) (S)

SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RAD.
6	240°22'	21.97	22.155	49.5
7	225°34'	10.2	10.605	11
8	277°36'	4.05		
9	44°11'	14.55	15.19	15
10	60°22'	20.195	20.365	45.5
11	251°53'	13.575		
12	192°21'30"	114.355	117.995	136.5
13	235°34'30"	42.12	42.855	66.5
14	227°22'	24.685	25.6	27.5

EASEMENT (F)

ROAD WIDENING 306.3m2

BRUNKER ROAD

LAMBERT STREET

Surveyor:	Philip D. Youdale
Date of Survey:	26 February 2010
Surveyor's Ref:	1008-101-105-DP 2010M7100(285) Extra Sheets

PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502

LGA: BANKSTOWN /AUBURN
Locality: POTTS HILL & REGENTS PARK
Subdivision No: S.80/2010
Lengths are in metres. Reduction Ratio 1:1250

Registered 23.6.2010

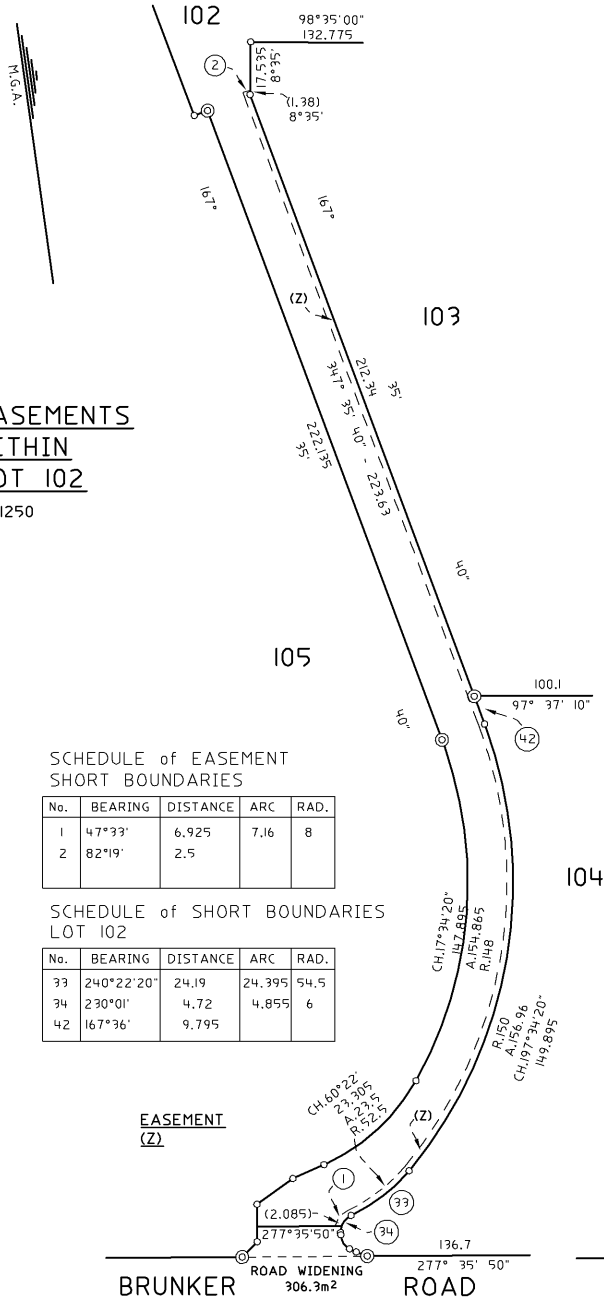
DP1149790

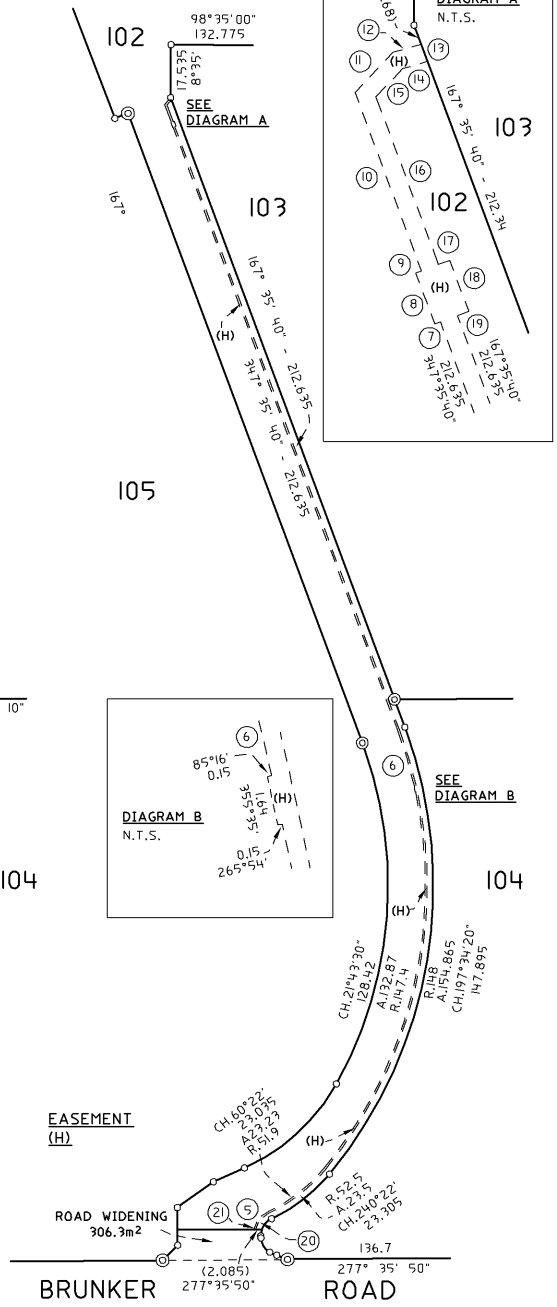
10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:8 of 11
Ref:als /Src:M

EASEMENTS WITHIN LOT 102

1:1250





SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RAD.
5	47°03'	7.58	7.85	8.6
6	351°26'	19.71	19.725	147.4
7	257°36'	0.2		
8	347°36'	1.8		
9	77°36'	0.2		
10	347°36'	6.295		
11	51°25'	1.825		
12	82°19'	0.965		
13	167°36'	0.6		
14	262°19'	0.85		
15	231°25'	1.285		
16	167°36'	5.92		
17	77°36'	0.4		
18	167°36'	1.8		
19	257°36'	0.4		
20	227°33'	6.925	7.16	8
21	277°36'	0.62		

(H) EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE & VARIABLE WIDTH

(Z) EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE

(X) RIGHT OF ACCESS VARIABLE WIDTH

SCHEDULE of EASEMENT SHORT BOUNDARIES

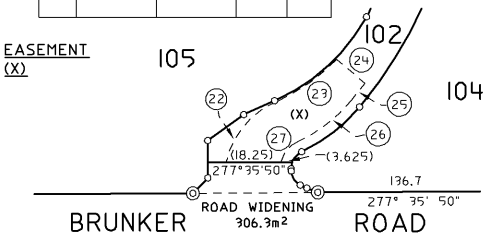
No.	BEARING	DISTANCE	ARC	RAD.
1	47°33'	6.925	7.16	8
2	82°19'	2.5		

SCHEDULE of SHORT BOUNDARIES LOT 102

No.	BEARING	DISTANCE	ARC	RAD.
33	240°22'20"	24.19	24.395	54.5
34	230°01'	4.72	4.855	6
42	167°36'	9.795		

SCHEDULE of EASEMENT SHORT BOUNDARIES

No.	BEARING	DISTANCE	ARC	RAD.
22	47°08'	25.79	26.765	28.5
23	63°09'	24.75	24.9	65.5
24	138°16'	12.2		
25	226°09'	7.125	7.13	146.5
26	240°22'	22.635	22.825	51
27	226°24'	8.565	8.885	9.5



Surveyor: Philip D. Youdale Date of Survey: 26 February 2010 Surveyor's Ref: 1008-101-105-DP 2010M7100(285) Extra Sheets	PLAN OF SUBDIVISION OF LOT 1006 D.P.1140109 AND LOT 2 D.P.456502	LGA: BANKSTOWN /AUBURN Locality: POTTS HILL & REGENTS PARK Subdivision No: S.80/2010 Lengths are in metres. Reduction Ratio 1:1250	Registered 23.6.2010	DP1149790

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 Table of mm

Req:R998850 /Doc:DP 1149790 P /Rev:24-Jun-2010 /Sts:SC.OK /Pgs:ALL /Prt:11-Jul-2017 09:00 /Seq:9 of 11
Ref:als /Src:T

DEPOSITED PLAN ADMINISTRATION SHEET

SIGNATURES, SEALS and STATEMENTS of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

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

1. EASEMENT FOR DRAINAGE OF WATER 2 & 3 WIDE AND VARIABLE WIDTH (A)
2. EASEMENT FOR DRAINAGE OF WATER 2 WIDE (B)
3. EASEMENT FOR DRAINAGE OF WATER 15 WIDE AND VARIABLE WIDTH (C)
4. EASEMENT FOR DRAINAGE 4 WIDE (D)
5. RIGHT OF CARRIAGEWAY VARIABLE WIDTH (E)
6. EASEMENT FOR WATER SUPPLY 4 WIDE (F)
7. RIGHT OF CARRIAGEWAY VARIABLE WIDTH (G)
8. EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 WIDE AND VARIABLE WIDTH (H)
9. RIGHT OF CARRIAGEWAY 9 WIDE (I)
10. EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE (J)
11. RIGHT OF CARRIAGEWAY 9 WIDE AND VARIABLE WIDTH (K)

(Refer to Sheet 2 for Continuation)

Use PLAN FORM 6A
for additional certificates, signatures, seals and statements

Crown Lands NSW/Western Lands Office Approval

I.....in approving this plan certify
(Authorised Officer)
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 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')

(BANKSTOWN).....
* Authorised Person/General Manager/Accredited Certifier

(AUBURN).....
* Authorised Person/~~General Manager~~/~~Accredited Certifier~~

Consent Authority:BANKSTOWN CITY COUNCIL & AUBURN CITY COUNCIL
Date of Endorsement: 10 June 2010
Accreditation no: .....
Subdivision Certificate no: S.80/2010
File no: S.80/2010

* Delete whichever is inapplicable.

* OFFICE USE ONLY

DP1149790

Registered: 23.6.2010

Title System: TORRENS

Purpose: SUBDIVISION

PLAN OF SUBDIVISION OF LOT 1006 IN D.P. 1140109 AND LOT 2 IN DP 456502

LGA:	**BANKSTOWN AND AUBURN**
Locality:	**POTTS HILL & REGENTS PARK**
Parish:	**LIBERTY PLAINS**
County:	**CUMBERLAND**

Surveying and Spatial Information Regulation, 2006

I, **PHILIP D. YOUDALE** of YOUDALE STRUDWICK & CO. Pty Ltd.... of .SUITE 4, 114 HAMPDEN ROAD, ARTARMON 2064.....
a surveyor registered under the *Surveying and Spatial Information Act, 2002*, certify that the survey represented in this plan is accurate, has been made in accordance with the *Surveying and Spatial Information Regulation, 2006* and was completed on:
26 FEBRUARY, 2010 .....

The survey relates to .LOTS 101 TO 105.....
.....
(specify the land actually surveyed or specify any land shown in the plan that ~~is not~~ the subject of the survey)

Signature .....*Dated: 05/03/2010*
Surveyor registered under the Surveying and Spatial Information Act, 2002

Datum Line:...X - Y.....
Type: Urban/~~Rural~~

Plans used in the preparation of survey/compilation

DP8254, DP16224, DP16924, DP21712, DP24118, DP25068, DP26622, DP35567, DP80895, DP225818, DP259962, DP447790, DP447850, DP456502, DP563531, DP595541, DP717569, DP776854, DP824052, DP827669, DP841291, DP878185, DP 976377, DP979356, DP999766, DP1031726, DP1046678, DP1058360, DP1091429, DP1118945, DP1119135, DP1140109 (UNREGISTERED), DP1142117 (UNREGISTERED), R18531-1603, CP186-690, CP3805-3000, CP7616-3000, CP 16411-1603

(if insufficient space use Plan Form 6A annexure sheet)

SURVEYOR'S REFERENCE:1008-101-105-DP 2010M7100(285) Extra Sheets

FORM 6A (Annexure Sheet) DP1149790 Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 3 sheet(s)

PLAN OF SUBDIVISION OF LOT 1006 IN D.P. 1140109 AND LOT 2 IN DP 456502

DP1149790

Registered: 23.6.2010

* OFFICE USE ONLY

Subdivision Certificate No: S.80/2010

Date of Endorsement: 10.6.2010

PURSUANT TO SECTION 88B OF THE CONVEYANCING ACT, 1919, IT IS INTENDED TO CREATE (Continued from Sheet 1):

12. RIGHT OF CARRIAGEWAY 13.5 WIDE AND VARIABLE WIDTH (L)
13. EASEMENT FOR GAS MAIN 1.5 WIDE (M)
14. EASEMENT FOR DRAINAGE OF WATER 15 WIDE AND VARIABLE WIDTH (N)
15. EASEMENT FOR SERVICES VARIABLE WIDTH (O)
16. RIGHT OF CARRIAGEWAY 13.5 WIDE AND VARIABLE WIDTH (P)
17. EASEMENT FOR WATER SUPPLY 4 WIDE AND VARIABLE WIDTH (Q)
18. EASEMENT FOR WATER SUPPLY 3 WIDE AND VARIABLE WIDTH (R)
19. RIGHT OF CARRIAGEWAY 13.5 WIDE AND VARIABLE WIDTH (S)
20. RIGHT OF CARRIAGEWAY VARIABLE WIDTH (T)
21. EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 5.67 WIDE (U)
22. RIGHT OF CARRIAGEWAY VARIABLE WIDTH (V)
23. RIGHT OF CARRIAGEWAY VARIABLE WIDTH (W)
24. RIGHT OF ACCESS VARIABLE WIDTH (X)
25. RIGHT OF CARRIAGEWAY 12.5 WIDE (Y)
26. EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2 WIDE (Z)
27. EASEMENT FOR SERVICES 13.5 WIDE AND VARIABLE WIDTH (A1)
28. RESTRICTION ON THE USE OF LAND

IT IS INTENDED TO DEDICATE THE AREAS SHOWN AS "ROAD WIDENING 341.0 m^{2}" (ROOKWOOD ROAD) AND "ROAD WIDENING 306.3 m^{2}" (BRUNKER ROAD) TO THE PUBLIC AS PUBLIC ROAD

SURVEYOR'S REFERENCE: 1008-101-105-DP 2010M7100(285) Extra Sheets

FORM 6A (Annexure Sheet) DP1149790 easing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 3 of 3 sheet(s)

PLAN OF SUBDIVISION OF LOT 1006 IN D.P. 1140109 AND LOT 2 IN DP 456502

* DP1149790 *

Registered: 23.6.2010

* OFFICE USE ONLY

Subdivision Certificate No: S.80/2010

Date of Endorsement: 10.6.2010

SIGNED SEALED AND DELIVERED
for and on behalf of EnergyAustralia
by KATHERINE MARGARET GUNTON
its duly constituted Attorney pursuant
to Power of Attorney registered
Book 4528 No. 401

Attorney

Witness

Signed for SYDNEY WATER CORPORATION
by its Attorneys
MARK ROWLEY and
PETER VINCENT BYRNE
who hereby state at the time of executing this instrument have no notice of the revocation of the Power of Attorney Registered No. 606 Book 4541 under the Authority of which this instrument has been executed.

M Rowley
MARK ROWLEY - Attorney

PETER VINCENT BYRNE - Attorney

MARTIN BRAMBLE - Witness

SURVEYOR'S REFERENCE: 1008-101-105-DP 2010M7100(285) Extra Sheets

Advance Legal Searchers

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

11/7/2017 9:06AM

FOLIO: 2/225818

First Title(s): OLD SYSTEM
Prior Title(s): VOL 14333 FOL 208

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
22/4/1988	DP225818	DEPOSITED PLAN	FOLIO CREATED EDITION 1
2/5/1988	X529340	DEPARTMENTAL DEALING	EDITION 2
29/6/1998	5086699	DEPARTMENTAL DEALING	
15/6/2005	AB501510	LEASE	EDITION 3
22/11/2005	AB891094	APPLICATION	EDITION 4
9/6/2009	AE715331	DEPARTMENTAL DEALING	
9/6/2010	DP1140109	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

Advance Legal Searchers

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

11/7/2017 9:02AM

FOLIO: 104/1149790

First Title(s): OLD SYSTEM VOL 1236 FOL 83
VOL 1723 FOL 170 VOL 1727 FOL 99
Prior Title(s): 1006/1140109

Recorded	Number	Type of Instrument	C.T. Issue
23/6/2010	DP1149790	DEPOSITED PLAN	FOLIO CREATED EDITION 1
15/6/2016	AK510691	TRANSFER	EDITION 2

*** END OF SEARCH ***

ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

Advance Legal Searchers

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

11/7/2017 9:04AM

FOLIO: 1006/1140109

First Title(s): OLD SYSTEM VOL 1236 FOL 83
VOL 1723 FOL 170 VOL 1727 FOL 99
Prior Title(s): 2/225818

Recorded	Number	Type of Instrument	C.T. Issue
9/6/2010	DP1140109	DEPOSITED PLAN	FOLIO CREATED CT NOT ISSUED
23/6/2010	DP1149790	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

Advance Legal Searchers

Advance Legal Searchers Pty Ltd hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act.

Information provided through Tri-Search an approved LPI*NSW* Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 104/1149790

SEARCH DATE	TIME	EDITION NO	DATE
11/7/2017	9:00 AM	2	15/6/2016

LAND

LOT 104 IN DEPOSITED PLAN 1149790
AT POTTS HILL
LOCAL GOVERNMENT AREA CANTERBURY-BANKSTOWN
PARISH OF LIBERTY PLAINS COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1149790

FIRST SCHEDULE

POTTS HILL GROUP PTY LIMITED (T AK510691)

SECOND SCHEDULE (8 NOTIFICATIONS)

---

1 DP1140109 EASEMENT FOR STORMWATER DRAINAGE PURPOSES 3 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
2 DP1149790 EASEMENT FOR DRAINAGE OF WATER 2 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
3 DP1149790 EASEMENT FOR DRAINAGE 4 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
4 DP1149790 EASEMENT FOR TELECOMMUNICATION PURPOSES 0.6 METRE(S) WIDE AND VARIABLE WIDTH APPURTENANT TO THE LAND ABOVE DESCRIBED
5 DP1149790 EASEMENT FOR DRAINAGE OF WATER 15 METRE(S) WIDE AND VARIABLE WIDTH REFERRED TO AND NUMBERED (14) IN THE S.88B INSTRUMENT APPURTENANT TO THE LAND ABOVE DESCRIBED
6 DP1149790 RIGHT OF CARRIAGEWAY 13.5 METRE(S) WIDE AND VARIABLE WIDTH REFERRED TO AND NUMBERED (16) IN THE S.88B INSTRUMENT APPURTENANT TO THE LAND ABOVE DESCRIBED
7 DP1149790 EASEMENT FOR SERVICES 13.5 METRE(S) WIDE AND VARIABLE WIDTH APPURTENANT TO THE LAND ABOVE DESCRIBED
8 DP1149790 RESTRICTION(S) ON THE USE OF LAND

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

Appendix E
Planning Certificate under Section 149

Appendix F
Dial Before You Dig Plans

Job No 12609897

Phone: 1100
www.1100.com.au

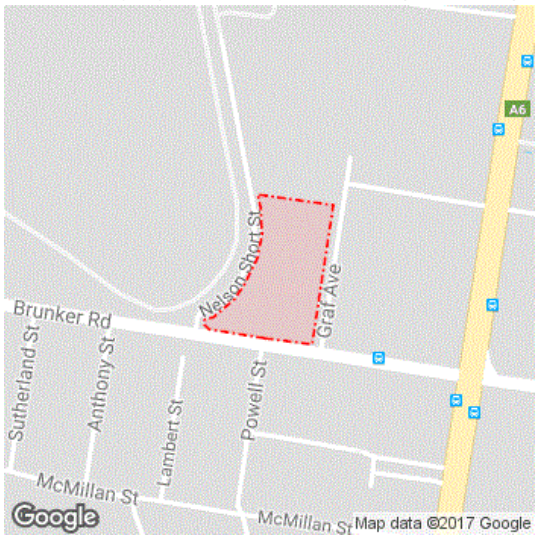
Caller Details

Contact: Mr Ivan Wong
Company: Consulting Earth Scientists
Address: 55 Grandview Street
Pymble NSW 2073

Caller Id: 1697383 **Phone:** 0285692200
Mobile: 0403273626 **Fax:** Not Supplied
Email: ivan.wong@consultingearth.com.au

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables.
The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference: 10 Nelson Short, Potts Hill - Investigati
Working on Behalf of:
Private

Enquiry Date:	Start Date:	End Date:
11/07/2017	13/07/2017	14/07/2017

Address:
10 Nelson Short 10 Nelson Short Street
Potts Hill NSW 2143

Job Purpose: Excavation
Onsite Activity: Mechanical Excavation
Location of Workplace: Private Property
Location in Road: Not Supplied

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:
Drilling of boreholes for geotechnical and environmental investigations.

Your Responsibilities and Duty of Care

- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at **www.1100.com.au**
- **For more information on safe excavation practices, visit www.1100.com.au**

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
# Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
62667600	Ausgrid	0249510899	NOTIFIED
62667604	Jemena Gas West	1300880906	NOTIFIED
62667603	Optus and/or Uecomm, Nsw	1800505777	NOTIFIED
62667598	PIPE Networks, Nsw	1800201100	NOTIFIED
62667605	Sydney Water	132092	NOTIFIED
62667602	Telstra NSW, Central	1800653935	NOTIFIED

END OF UTILITIES LIST

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week

Response Cover Letter

Date: 11/07/2017

PIPE Networks
Level 17, 127 Creek St
Brisbane QLD 4000
Phone: +61 732339895
Fax: +61 732339880

To:
Mr Ivan Wong - Customer ID: 1697383
Consulting Earth Scientists - Mr Ivan Wong
55 Grandview Street
Pymble
NSW
2073

Email: ivan.wong@consultingearth.com.au
Phone: 0285692200
Fax: Not Supplied
Mobile: 0403273626

Dear Mr Ivan Wong

The following is our response to your Dial Before You Dig enquiry.

Assets Affected: PIPE Networks

Sequence Number: 62667598

Location: 10 Nelson Short Street
Potts Hill
NSW
2143

Commencement Date: 13/07/2017

Please read over the attached documents for more information about your enquiry.

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.*

Note: *If the works fall in an area that adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Level 17, PIPE Networks House, 127 Creek Street, Brisbane 4000
PH:(07) 3233 9895 FAX:(07) 3233 9880

Attention: Mr Ivan Wong
Fax: Not Supplied
DBYD Enquiry Number: 62667598

Date: 11/07/2017

Location: 10 Nelson Short Street
Potts Hill
NSW
2143

DBYD ENQUIRY RETURN:

PIPE Networks **DOES** own or operate telecommunications network infrastructure within the area detailed above.

The affected network **is contained in the PIPE Networks duct network** and can be found on **PIPE Networks** own network plans.

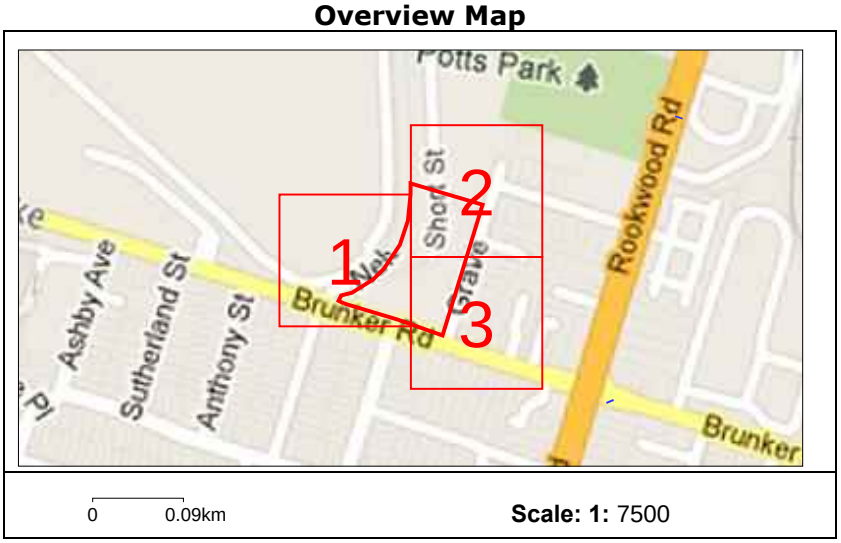
This network is vital to our operations and as such, it is critical that no works commence within the area until a PIPE Networks representative has contacted you.

A PIPE Networks representative will contact you within 24 hours to further discuss your intended works. If you do not hear from PIPE networks within 24hours please call us for assistance.

Due to continued network expansion, this network information can only be considered valid and accurate for 28 days from issue.

PIPE Networks will seek compensation for any damage to its network through negligence or ignorance of your duty of care.

Overview Map



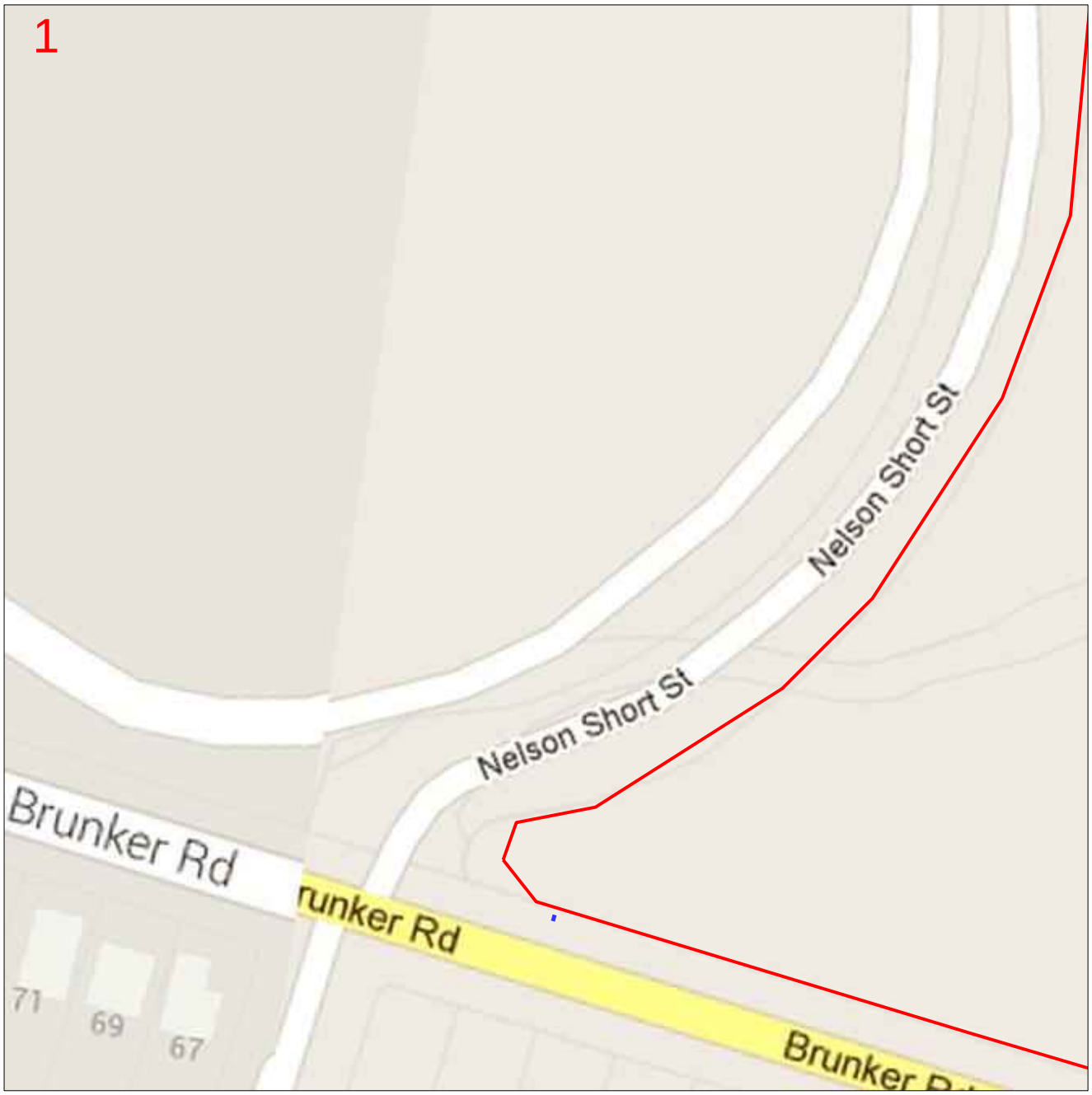
PIPE Networks (for information specific to this job only)
Ph (07) 3233 9895
Email: dbyd@pipenetworks.com

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.*

Note: *If the works fall in an area that adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.



Enquiry Number: 62667598

Map Sheet: 1

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area

Line

Area

Asset

Manhole

Duct

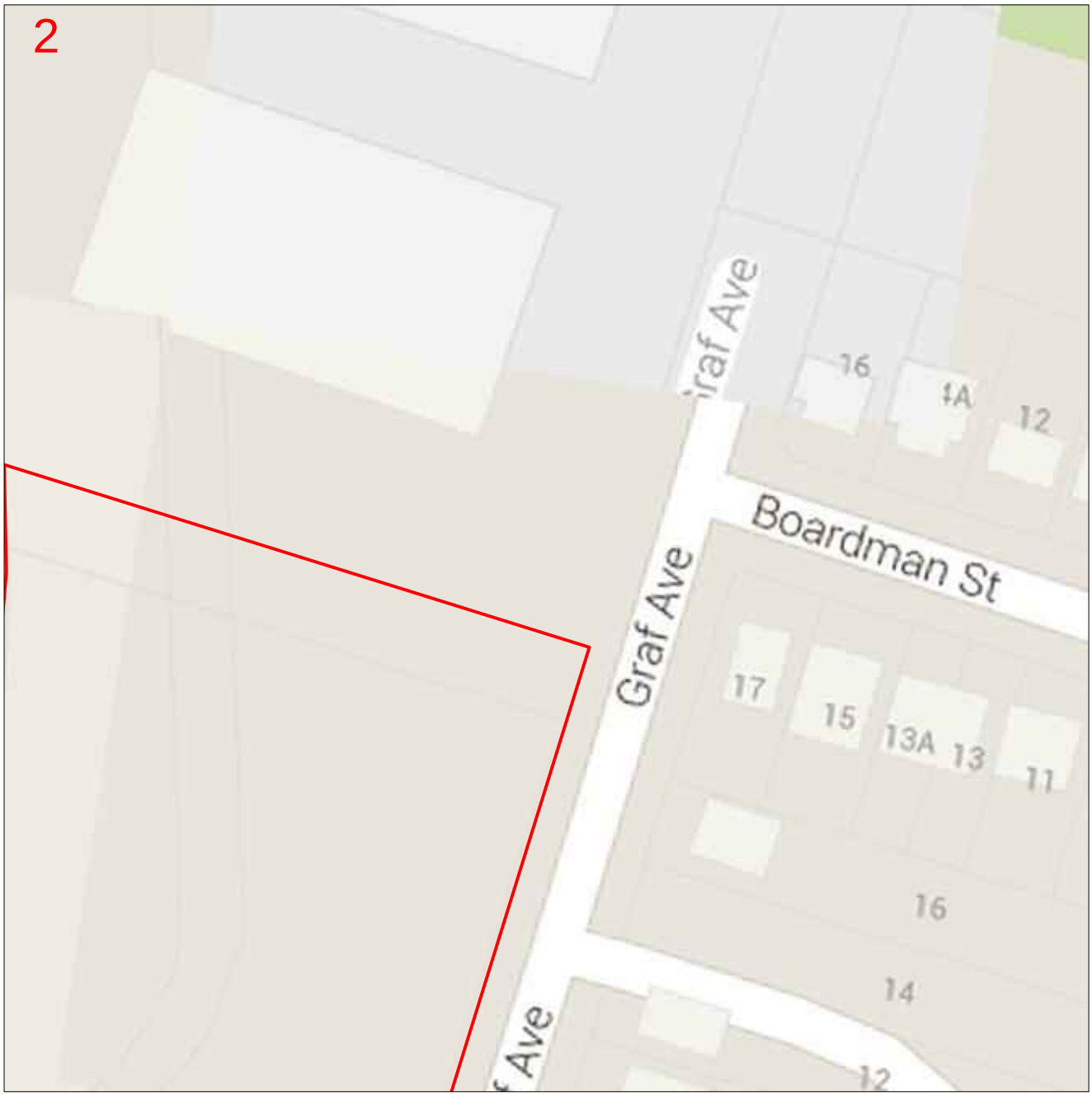
N

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence. © 2013 PIPE Networks Ltd.*

Note: *If the works fall in an area that is adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.



Enquiry Number: 62667598

Map Sheet: 2

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area **Asset**

Line

Area

Manhole

Duct

N

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.* *© 2013 PIPE Networks Ltd.*

Note: *If the works fall in an area that is adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***

Only PIPE Networks' duct displayed.

For location of PIPE Networks cable in third-party duct, please contact third-party named on attached cover letter.



Enquiry Number: 62667598

Map Sheet: 3

Scale: 1:750

0 0.008km

LEGEND

DBYD Request Area **Asset**

Line

Area

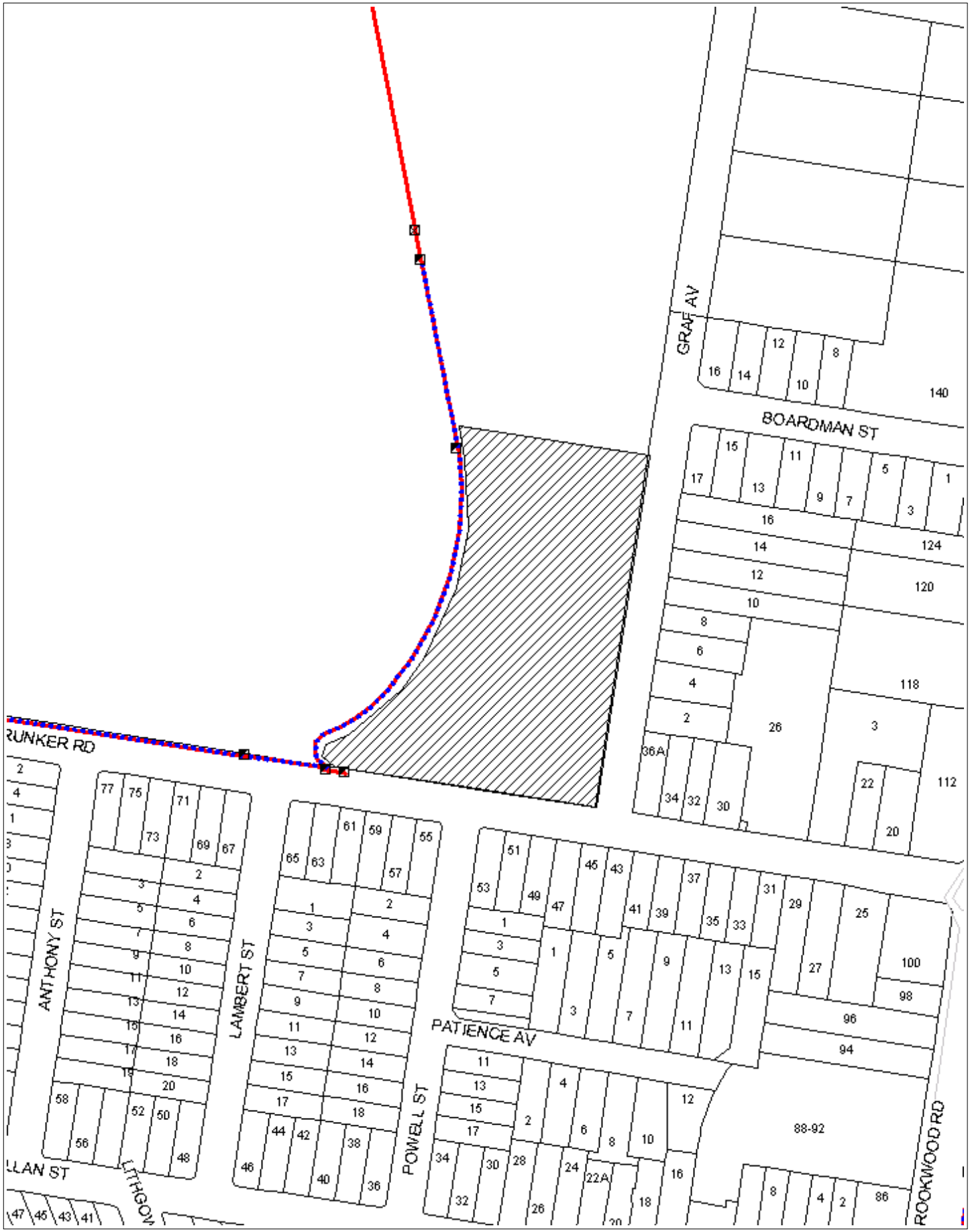
Manhole

Duct

N

DISCLAIMER: *No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence. © 2013 PIPE Networks Ltd.*

Note: *If the works fall in an area that is adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time.* ***NO WORKS TO COMMENCE PRIOR TO INSPECTION.***



WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission.
Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed please raise a new enquiry.

Sequence Number: 62667603

Date Generated: 11/07/2017

For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208

A3

WS0455
POTTS HILL OUTER

AVE

BOARDMAN

RD

GRAF

BRUNKER

ST

LAMBERT

ST

POWELL

PATIENCE

AVE

Position Subject to Final Subdivision

Position Subject To Final Subdivision

Relined

Brick Wall / Concrete Base

DBYD Address:
10 Nelson Short Street
Potts Hill NSW 2143

DBYD Job No: 12609897

DBYD Sequence No: 62667605

Copyright Reserved Sydney Water 2017

No warranty is given that the information shown is complete or accurate.

SYDNEY WATER CORPORATION

Scale: 1:1500

Date of Production: 11/07/2017

Plan 1 of 1

N

0m 7m 14m 21m 28m

RP44442

RP53332

RP44444

RP53334

GRAF AVE

BRUNKER RD

17 18 16 14 12 10 8 6 4 2 2A 36B 36A

JOINT DETAIL REPORT

No...	Str.Pg.....	PI/Cor.....	Joint Location.....
Map: RP531			
375	8710-0282	0.70/0.70	87.9 N OF BRUNKER RD NPL
376	8710-0282	0.80/0.70	93.4 N OF BRUNKER RD NPL

WARNING

Ausgrid's plans show the position of assets at the time of installation and may not account for subsequent changes to road alignments, fences or buildings. The plans show no more than the presence or absence of Ausgrid assets in the street.
Persons working near electricity networks must exercise care and will be held responsible for any damage caused.
You must excavate by hand or use vacuum excavation to establish the location of Ausgrid underground cables and associated assets.
Underground: Working near a cable may result in electric shock even if no contact is made. Any work in the vicinity of any cable should only be performed using safe work methods developed in accordance with the recommendations included in WorkCover Code of Practice for Excavation and WorkCover Guide for Work Near Underground Assets
as well as recommendations of Ausgrid's Network Standard NS156.
Overhead: Do not excavate near poles or towers until the stability of the foundation has been assessed by Ausgrid. Cables or earth conductors may be present close to substations, poles or towers.
Workers must maintain safe approach distances and follow applicable WorkCover Codes of Practice.
NOTE: 1. You must keep Ausgrid plans on site during excavation works. If the person responsible for performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret the plans. 2. This information includes data from the NSW Digital Cadastral Database by Land and Property Information (c) 2016, used under Creative Commons licence version 4.0.

RP44424	RP53313	RP53314	
RP44442	RP53331	RP53332	RP GRID
RP44444	RP53333	RP53334	
2519T	2520T	2521T	
2519E	2520E	2521E	GRID
2519S	2520S	2521S	

GMLA0

Distribution - 62667600

INFORMATION ON THIS PLAN ONLY VALID FOR 30 DAYS FROM ISSUE DATE

11 Jul 2017

Page 1 of 1

1:319

0 19 metres

Ausgrid

Level 17, PIPE Networks House, 127 Creek Street, Brisbane 4000
PH:(07) 3233 9895 FAX:(07) 3233 9885

DBYD ENQUIRY RETURN:

PIPE Networks **DOES** own or operate telecommunications network infrastructure within the request area detailed above.

The affected network infrastructure is contained within the **Telstra** duct network and can be found listed on the appropriate **Telstra** duct Network plans.

THIS NETWORK IS VITAL TO OUR OPERATIONS AND AS SUCH, IT IS CRITICAL THAT **NO WORKS** COMMENCE WITHIN THE AREA UNTIL YOU HAVE RECEIVED AND APPRAISED THE TELSTRA DUCT PLANS FOR THIS AREA.

Due to continued network expansion, this network information can only be considered valid and accurate for 28 days from issue.

PIPE Networks will seek compensation for any damage to its network through negligence or ignorance of your duty of care.

PIPE NETWORKS
Ph (07) 3233 9895
Email: dbyd@pipenetworks.com
(for information specifically on this job only)

Appendix G
Borehole Logs

Project ID:	CES170303-SD	CONSULTING EARTH SCIENTISTS	**LOG ID: BH01**
Client:	Mushan Group Pty Ltd	Suite 3, Level 1 55 Grandview Street, Pymble NSW 2073 PH: (02) 8569 2200 FAX: (02) 9983 0582 www.consultingearth.com.au	Sheet: 1 of 1
Project:	Potts Hill Senior Living		
Location:	10 Nelson Short Street, Potts Hill		

X-Coord:	318242	GDA 94 MGA 56	**Date Commenced:**	13/07/17	**Logged by:** IW
Y-Coord:	6247380		**Date Completed:**	13/07/17	**Checked by:** DL
Surface Elevation (R.L) :	56	mAHD	**Hole Diameter (mm):**	110	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail
0	56	ADV				Clayey SILT: brown red, low plasticity silt, medium plasticity clay with sand, dry. [Fill]	Fm					
1	55					Silty CLAY: red brown, medium plasticity, dry. [Fill]	St			SPT01 @ 1-1.45m 3,5,6 N=11		
2	54					At 2m, trace medium grained gravels	Fm			SPT02 @ 2-2.45m 2,2,3 N=5		
3	53					From 3m, red brown / orange brown From 3.5m, red brown / light grey, medium to high plasticity				SPT03 @ 3-3.45m 3,4,5 N=9		
4	52					Clayey SILT: dark brown, with rootlets and black organics, dry. [Old Topsoil]	St			SPT04 @ 4-4.45m 3,9,11 N=20		
5	51					Silty CLAY: light grey, medium plasticity, dry. [Natural] From 4.6m, light grey				SPT05 @ 5-5.45m 3,7,10 N=17		
6	50					becoming hard						
7	49					Shaley CLAY: light grey, medium plasticity, dry. [Residual Clay]	Vst-H					
8	48					Coring commenced at 7.4m bgl. Refer to BH01 corelog.						
9	47											
10	46											

Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller
Machine Type:	Edson 1000	**Operators Licence No.:**	N/A

Refer to Standard Sheets for details of abbreviations

Project ID:	CES170303-SD
Client:	Mushan Group Pty Ltd
Project:	Potts Hill Senior Living
Location:	10 Nelson Short Street, Potts Hill

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582
www.consultingearth.com.au

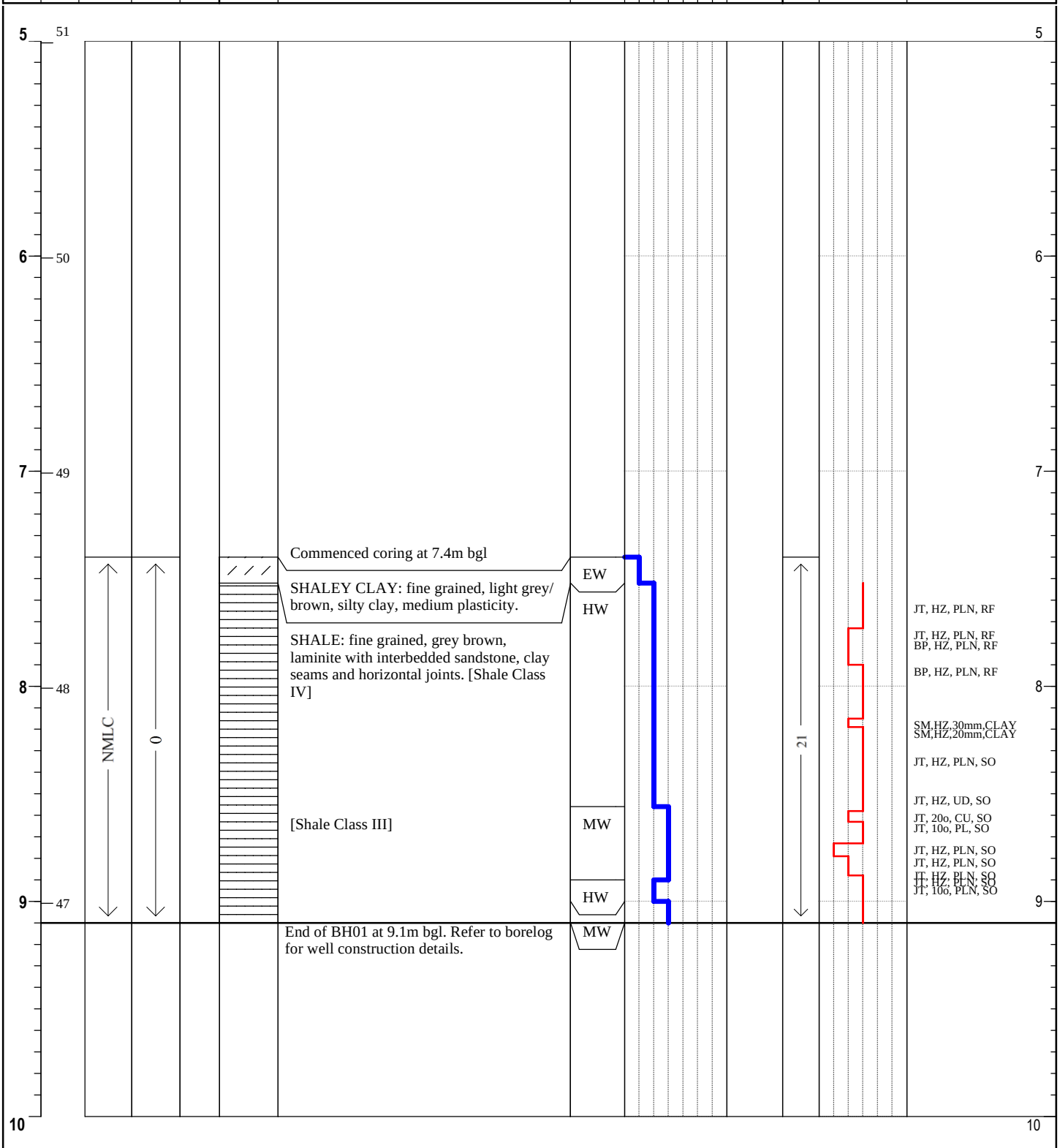
Corehole ID: BH01

Sheet: 1 of 1

X-Coord:	318242	**Date Commenced:**	13/07/2017	**Logged by:**	IW
Y-Coord:	6247380	**Date Completed:**	13/07/2017	**Checked by:**	DL
Surface Elevation (R.L.):	56 m AHD	**Hole Diameter (mm):**	110		

Drilling Information | **LITHOLOGY** | **Natural Defects**

Depth (mBGL) | R.L. (m) | Method (Support) | % Coreloss | Water | Symbol | **Rock Description** — ROCK TYPE: grain characteristics, colour structure, minor components | Weathering | Estimated Strength MPa (0.03 EL, 0.1 VL, 0.3 L, 1 M, 3 H, 10 VH, EH) | Is (50) MPa | RQD % | Spacing (mm) (20, 60, 200, 600, 2000) | Description



Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller	Refer to Standard Sheets for details of abbreviations
Machine Type:	Edson 1000			

Project ID:	CES170303-SD
Client:	Mushan Group Pty Ltd
Project:	Potts Hill Senior Living
Location:	10 Nelson Short Street, Potts Hill

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582
www.consultingearth.com.au

LOG ID: BH02

X-Coord:	318287	GDA 94 MGA 56	**Date Commenced:**	13/07/17	**Logged by:** IW
Y-Coord:	6247448		**Date Completed:**	13/07/17	**Checked by:** DL
Surface Elevation (R.L) :	56	mAHD	**Hole Diameter (mm):**	110	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail
0	56	ADV				Clayey SILT: brown grey, low plasticity silty, medium plasticity clay with sand, trace fine to medium grained gravel, dry. [Fill]	Fm					
1	55					From 1m, brown/ yellow brown	St			SPT01 @ 1-1.45m 3,9,10 N=19		
2	54									SPT02 @ 2-2.45m 3,4,7 N=11		
3	53					Silty CLAY: yellow brown to dark grey, medium plasticity clay, trace fine to medium grained gravels, dry. [Fill]	Fm			SPT03 @ 3-3.45m 2,3,7 N=10		
4	52					brown grey, high plasticity				SPT04 @ 4-4.45m 2,3,5 N=8		
5	51					Clayey SILT: dark brown to black, medium plasticity with black organics, dry. [Old Topsoil]	S			SPT05 @ 5-5.45m 1,2,2 N=4		
6	50					Silty CLAY: pale grey, high plasticity, dry. [Natural]	Fm					
7	49									SPT05 @ 6.5-6.95m 2,2,5 N=7		
8	48					Silty CLAY: yellow brown / pale grey, dry. [Residual Clay]	VSt-H			SPT07 @ 8-8.45m 5,15, 10/50mm N=HB		
9	47					Coring commenced at 8.35m bgl. Refer to BH02 corelog.						
10	46											

Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller
Machine Type:	Edson 1000	**Operators Licence No.:**	N/A

Refer to Standard Sheets for details of abbreviations

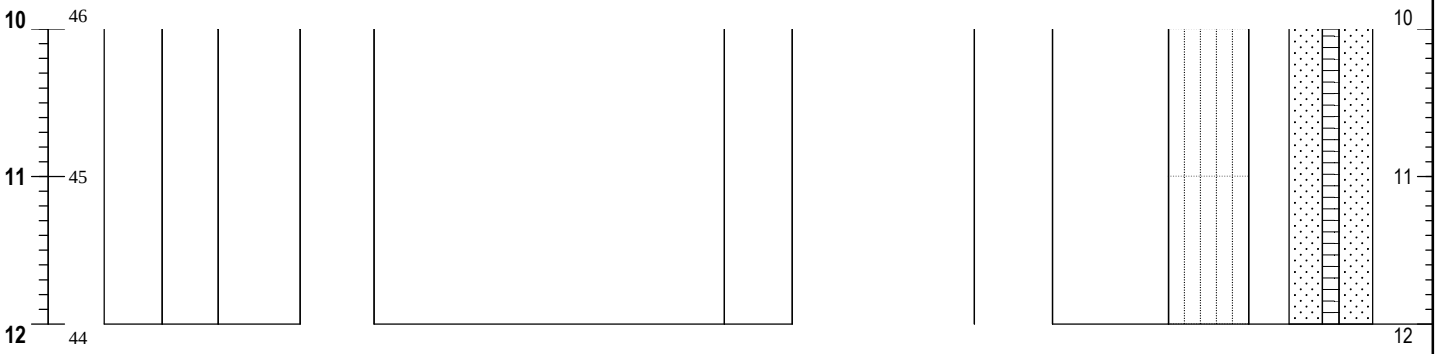
Project ID:	CES170303-SD
Client:	Mushan Group Pty Ltd
Project:	Potts Hill Senior Living
Location:	10 Nelson Short Street, Potts Hill

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582
www.consultingearth.com.au

LOG ID: BH02

X-Coord:	318287	GDA 94 MGA 56	**Date Commenced:**	13/07/17	**Logged by:** IW
Y-Coord:	6247448		**Date Completed:**	13/07/17	**Checked by:** DL
Surface Elevation (R.L) :	56	mAHD	**Hole Diameter (mm):**	110	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail



Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller
Machine Type:	Edson 1000	**Operators Licence No.:**	N/A

Refer to Standard Sheets for details of abbreviations

Project ID:	CES170303-SD
Client:	Mushan Group Pty Ltd
Project:	Potts Hill Senior Living
Location:	10 Nelson Short Street, Potts Hill

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582
www.consultingearth.com.au

Corehole ID: BH02

Sheet: 1 of 1

X-Coord:	318287	**Date Commenced:**	13/07/2017	**Logged by:**	IW
Y-Coord:	6247448	**Date Completed:**	13/07/2017	**Checked by:**	DL
Surface Elevation (R.L.):	56 m AHD	**Hole Diameter (mm):**	110		

Drilling Information | **LITHOLOGY** | **Natural Defects**

Depth (mBGL)	R.L. (m)	Method (Support)	% Coreloss	Water	Symbol	Rock Description (ROCK TYPE: grain characteristics, colour structure, minor components)	Weathering	Estimated Strength MPa (EL 0.03, VL 0.1, L 0.3, M 1, H 3, VH 10, EH)	Is (50) MPa	RQD %	Spacing (mm) (20, 60, 200, 600, 2000)	Description
8	48	NMLC	0			Commenced coring at 9.9m bgl	EW			69		JT, HZ, PLN, SO JT, HZ, PLN, SO JT, 20o, PLN, SO, CLAY
9	47					SHALE: fine grained, brown grey, laminite with interbedded sandstone, clay seams and horizontal joints. [Shale Class IV]	HW					FZ, HZ, PLN, RF JT, HZ, UD, SO BP, HZ, PLN, RF JT, HZ, PLN, SO JT, HZ, PLN, SO
10	46					[Shale Class III]	MW					JT, 70,CU,healed, FE JT, HZ, UD, SO JT, HZ, PLN, SO
11	45											JT, HZ, PLN, SO
12	44					End of BH02 at 12m bgl. Refer to borelog for well construction details.						JT, 0-10o, PLN, SO
13												

Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller
Machine Type:	Edson 1000		

Refer to Standard Sheets for details of abbreviations

Project ID:	CES170303-SD
Client:	Mushan Group Pty Ltd
Project:	Potts Hill Senior Living
Location:	10 Nelson Short Street, Potts Hill

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582
www.consultingearth.com.au

LOG ID: BH03

Sheet: 1 of 1

X-Coord:	318258	GDA 94 MGA 56	**Date Commenced:**	14/07/17	**Logged by:** IW
Y-Coord:	6247503		**Date Completed:**	14/07/17	**Checked by:** DL
Surface Elevation (R.L) :	56	mAHD	**Hole Diameter (mm):**	110	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail
0	56	ADV				Clayey SILT: dark brown, low plasticy silt, medium plasticity clay with sand, dry. [Fill]	Fm					
1	55					Silty CLAY: brown, medium plasticity, trace fine to medium grained gravels, dry. [Fill]	St			SPT01 @ 1-1.45m 5,11,8 N=19		
2	54					From 2m, brown grey / red brown. No gravels.	Fm			SPT02 @ 2-2.45m 2,4,5 N=9		
3	53					pale grey/ brown				SPT03 @ 3-3.45m 2,4,4 N=8		
4	52					From 4m, yellow brown/ pale grey From 4.4m, medium to high plasticity				SPT04 @ 4-4.45m 2,4,4 N=8		
5	51					Silty CLAY: pale grey, high plasticity, dry. [Natural]				SPT05 @ 5-5.45m 2,3,3 N=6		
6	50											
7	49					At 7.3m, moist.	H			SPT05 @ 6.5-6.95m 8,15,10/50mm N=HB		
						Coring commenced at 7.5m bgl. Refer to BH03 corelog.						
8	48											
9	47											
10	46											

Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller
Machine Type:	Edson 1000	**Operators Licence No.:**	N/A

Refer to Standard Sheets for details of abbreviations

Project ID:	CES170303-SD
Client:	Mushan Group Pty Ltd
Project:	Potts Hill Senior Living
Location:	10 Nelson Short Street, Potts Hill

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Corehole ID: BH03

Sheet: 1 of 1

X-Coord:	318258	**Date Commenced:**	14/07/2017	**Logged by:**	IW
Y-Coord:	6247503	**Date Completed:**	14/07/2017	**Checked by:**	DL
Surface Elevation (R.L.):	56 m AHD	**Hole Diameter (mm):**	110		

Drilling Information | **LITHOLOGY** | **Natural Defects**

Depth (mBGL)	R.L. (m)	Method (Support)	% Coreloss	Water	Symbol	Rock Description (ROCK TYPE: grain characteristics, colour structure, minor components)	Weathering	Estimated Strength MPa (0.03 EL, 0.1 VL, 0.3 L, 1 M, 3 H, 10 VH, EH)	Is (50) MPa	RQD %	Spacing (mm) (20, 60, 200, 600, 2000)	Description
6	50	NMLC	0			Commenced coring at 7.5m bgl	HW			10		JT, 0-10o, PLN, RF JT, 10o, PLN, RF, CLAY JT, HZ, PLN, RF, CLAY JT, 10o, PLN, RF, CLAY JT, HZ, PLN, RF, CLAY SZ, HZ, 20mm,PLN, SLK
7	49					SHALE: fine grained, grey brown to dark grey, laminite with interbedded sandstone, clay seams and horizontal joints. [Shale Class IV]						JT, 0-10o, PLN, RF
8	48					From 8.4 to 9.2m, dark grey siltstone with silt /clay infillings						JT, 0-10o, PLN, RF BP, HZ, PLN, SO,CLAY FZ, HZ, 15mm,ST,RF SM, HZ,15mm, PLN, SO,CLAY SM, HZ, PLN, SO,CLAY FZ, HZ, 20mm, IRR, RF SM, HZ, PLN, RF, CLAY
9	47					[Shale Class III]	MW					JT, HZ, PLN, SO JT, HZ, PLN, SO JT, HZ, PLN, SO JT, HZ, PLN, SO BP, HZ, PLN, SO JT, 0-10o, PLN, RF JT, 0-10o, PLN, RF JT, 70-90o, healed, PLN
10	46					End of BH03 at 10.2m bgl. Refer to borelog for well construction details.						
11												

Drill Company:	SDI Drilling	**Operator Name:**	Doug Miller
Machine Type:	Edson 1000		

Refer to Standard Sheets for details of abbreviations

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318223mE
Northing: 6247391mN
Elevation:

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Environmental Log: **BH04**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Gravelly clay, brown, moderate plasticity, dry.				
1				FILL: Gravelly clay, dry, low plasticity, mottled (orange, grey, red, brown), gravel.	BH04-0.8-0.9 BH04-2.5-2.7			
2								
3								
4				Becoming wet at 3.7m. FILL: Gravelly clay, orange/brown, wet.	BH04-4.0-4.2			
5	Auger			FILL: Clay, mottled, grey/orange, wet. FILL: Clay, grey/orange, low plasticity, dry.	BH04-5.0-5.1			
6				CLAY: Wet, grey/brown.				
7								
8				**Borehole terminated at 7.5m bgl** **Target depth reached**				

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 17/07/17
Date Completed: 17/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318241mE
Northing: 6247414mN
Elevation:

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Environmental Log: **BH05**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Gravelly clay, brown, dry, low plasticity, Rootlets at 0.1m	BH05-0.9-1.0			
1				FILL: Gravelly clay, mottled, grey, red, brown, moderate plasticity and dry.	BH05-2.0-2.1/Q1/Q2			
2								
3				FILL: Gravelly clay, mottled, grey, red, brown, high plasticity and dry.				
4				FILL: Grey, brown, clay, high plasticity, moist	BH05-3.4-3.6			
				FILL: Black,clay, slight organic odour, dry, low plasticity (crumbly)				
5				FILL: Grey/orange, clay, high plasticity, moist Becoming low plasticity and increased gravel at 4.7m	BH05-4.3-4.4			
6	Auger			FILL: Brown, gravelly clay, dry, moderate plasticity Refusal/Resistance at 5.1-5.5m				
7				CLAY: Brown, dry, low plasticity				
8				**Borehole terminated at 8.0m bgl** **Target depth reached**				
9								

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 18/07/17
Date Completed: 18/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318286mE
Northing: 6247470mN
Elevation:

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Environmental Log: **BH06**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Brown, silty clay, dry, low plasticity, sandstone cobbles.				
1				FILL: Brown clay, mottled (orange, grey, brown), gravel.	BH06-1.2-1.3			
2				FILL: Brown, gravelly clay, dry, low plasticity.				
2.5				FILL: Mottled gravelly clay.	BH06-2.5-2.6			
3				FILL: Brown, gravelly clay, dry.	BH06-3.0-3.2			
				Sandstone cobbles at 3.2m				
4				FILL: Brown clay, moist, moderate plasticity.	BH06-4.0-4.1			
5				FILL: Red, high plasticity, moist, some gravel.				
				FILL: Orange/grey, gravelly clay, high plasticity, moist, some organic/wood present.	BH06-5.4-5.5			
6				FILL: Dark brown clay, Very slight organic odour, rootlets, gravel, moist, low plasticity.	BH06-6.5-6.6			
7				CLAY: Red/grey, moist, high plasticity.	BH06-7.6-7.7			
8				**Borehole terminated at 8.0m bgl Target depth reached**				
9								

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 17/07/17
Date Completed: 17/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318305mE
Northing: 6247481mN
Elevation:

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Environmental Log: **BH07**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Gravelly sand, Fine to medium, orange/brown, dry.				
				FILL: Gravelly clay, dry, low platricity, brown.	BH07-0.5-0.7			
1								
2					BH07-2.0-2.1			
				Becoming mottled at 2.7m.				
3								
4				Shale cobbles at 4.4m	BH07-4.5-4.7			
5								
6				FILL: Gravelly clay, grey/brown, wet, low plasticity.	BH07-6.2-6.3			
				CLAY: Dry, pale brown, moderate to low plasticity.				
7				CLAY: Brown, becoming red/ grey.				
				Borehole terminated at 7.5m bgl Target depth reached				
8								

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 17/07/17
Date Completed: 17/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318304mE
Northing: 6247515mN
Elevation:

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Environmental Log: **BH08**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Brown, silty clay, gravels and cobbles of concrete. Rootlets at 0.2m				
1					BH08-1.0-1.1			
2					BH08-2.1-2.2			
3				FILL: Silty clay, grey/brown, dry, low plasticity.	BH08-3.1-3.2			
				FILL: Clay, mottled (Orange, grey, red, brown), dry, low plasticity, gravels.				
4					BH08-4.4-4.5			
5				FILL: Clay, pale brown, very dry,, gravels.				
6					BH08-6.0-6.3			
				FILL: Clay, pale brown, moist.				
7				FILL: Clay, grey/brown, wet, gravels, high plasticity.	BH08-7.0-7.1			
				CLAY: Red, high plasticity, moist, organic (wood) material. Becoming grey-red at 7.5m				
8				**Borehole terminated at 8.0m bgl** **Target depth reached**	BH08-7.9-8.0			
9								

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 17/07/17
Date Completed: 17/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318249mE
Northing: 6247480mN
Elevation:

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Environmental Log: **BH09**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Sandstone, yellow.				
				FILL: Yellow/brown, gravelly clay, dry, low plasticity.	BH09-1.1-1.2			
1				FILL: Brown, gravelly clay with sandstone cobbles, dry, low plasticity.				
2				FILL: Gravelly clay, mottled (grey, orange, red, brown), dry, low plasticity.	BH09-2.2-2.3			
				FILL: Clay, mottled (grey, orange, red, brown), moderate plasticity	BH09-3.6-3.7 BH09-4.8-5.0			
3								
4				Becoming high plasticity at 4.5m				
5				FILL: dark brown clay, organic odour, high plasticity, slightly moist.	BH09-5.3-5.4			
6				CLAY: grey/brown, moist, high plasticity. becoming grey red at 6.0m Moderate plasticity at 6.1m. Becoming yellow/grey at 6.3m.	BH09-6.5-6.6			
7				**Borehole terminated at 7.4m bgl** **Target depth reached**				
8								

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 17/07/17
Date Completed: 17/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318286mE
Northing: 6247503mN
Elevation:

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Environmental Log: **BH10**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Clay, dry, low plasticity with gravels, cobbles of sandstone.	BH10-1.0-1.1			
1								
				FILL: Grey/brown, moist, high plasticity.				
2				FILL: Brown, very dry, very low plasticity.	BH10-2.0-2.1			
				FILL: Mottled (orange, grey, brown, red), dry, very low plasticity.	BH10-3.0-3.2 QAQC1/QAQC2			
3								
				FILL: Mottled (orange, grey, brown, red), slightly moist, high plasticity.	BH10-4.0-4.1			
4					BH10-5.0-5.1			
5								
				FILL: Silty clay, dark brown plant fibre, organic odour, dry.				
6				CLAY: Orange/red, high plasticity.	BH10-6.0-6.2			
				CLAY: Grey and low plasticity.				
7				CLAY: Mottled (orange, grey, brown, red), dry, low plasticity.	BH10-7.1-7.3			
8				**Borehole terminated at 8.0m bgl Target depth reached**				
9								

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 17/07/17
Date Completed: 17/07/17
Logged/checked by: EM

Project ID: CES170303-SD **Easting:** 318297mE

Project: Potts Hill **Northing:** 6247415mN

Client: Mushan Group **Elevation:**

Location: 10 Nelson Short St, Potts Hill **Environmental Log:** **BH11**

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DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Gravelly clay,brown, cobbles of concrete, dry, weak, low plasticity.	BH11-1.9-2.0			
1								
2				Shale sand at 2.1m				
3								
3.5				FILL: Gravelly clay, orange/grey, dry, weak, low plasticity.	BH11-3.5-3.6			
4.4				FILL: Clay, grey/orange, soft, high plasticity, moist.	BH11-4.4-4.5			
4.9				FILL: Weathered clay, dry, weak, pale brown. Shale fragment/gravel at 4.9m.				
5.9				FILL: Gravelly clay, brown, moist/wet, loose.	BH11-5.9-6.0			
6				CLAY: brown becoming grey/red, organic/black wood matter, moist,	BH11-6.0-6.1 BH11-7.9-8.0			
7				No organic intrusion, weak and dry at 7.0m.				
8				**Borehole terminated at 8.0m bgl Target depth reached**				
9								

Drill Company: Numac Drilling **Date Commenced:** 18/07/17

Drill Model: **Date Completed:** 18/07/17

Hole Diameter (mm): 100 **Logged/checked by:** EM

Project ID: CES170303-SD **Easting:** 318297mE

Project: Potts Hill **Northing:** 6247381mN

Client: Mushan Group **Elevation:**

Location: 10 Nelson Short St, Potts Hill **Environmental Log:** **BH12**

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DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Concrete rubbles/cobbles				
				FILL: Gravelly clay, brown, dry, weak, low plasticity	BH12-0.5-0.6			
1				Layers of mudstone/shale at 1.0m				
2					BH12-2.4-2.5			
3				Sandstone at 3.0m				
				FILL: Clay, dry, weak, low plasticity, orange/grey.				
4				Shale fragments at 4.4m				
5				CLAY: Clay, orange to grey, dry, low plastcity, stiff	BH12-5.0-5.1			
6				CLAY: weathered grey orange to orange, dry, weak, loose	BH12-6.7-6.8			
7				**Borehole terminated at 7.0m bgl Target depth reached**				
8								

Drill Company: Numac Drilling **Date Commenced:** 18/07/17

Drill Model: **Date Completed:** 18/07/17

Hole Diameter (mm): 100 **Logged/checked by:** EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318269mE
Northing: 6247403mN
Elevation:

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Environmental Log: **BH13**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Brown, gravelly clay with cobbles of concrete, dry, weak				
2				FILL: Orange sandstone, fine to medium, weak, dry.				
3				FILL: Clay, dark brown with some rusty coloured sand, moist, weak, low to medium plasticity.	BH13-2.8-2.9			
				FILL: Clay, grey/orange, soft, high plasticity, moist. Becoming more stiff at 3.5m				
4				FILL: Dark brown clay, dry-moist, weak/loose, slight organic, some rootlets/organic wood observed.	BH13-4.2-4.3			
5				CLAY: Clay, grey/orange, stiff, dry, low plasticity. Becoming grey at 5.7m.				
6				CLAY: CLay, mottled, grey, orange, red, brown, dry, stiff, weak.				
7				CLAY: Clay, grey/red, dry, brittle weak. Becoming orange at 7.0m	BH13-7.0-7.1			
8				**Borehole terminated at 7.5m bgl** **Refusal at 7.5m**				

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 18/07/17
Date Completed: 18/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318277mE
Northing: 6247448mN
Elevation:

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Environmental Log: **BH14**

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			WELL DETAIL
Depth	Method	Water	Symbol	Description	Sample ID	Type	FID/PID (ppm) 0 2.5 5.0 7.5	
0	Push Tube			FILL: Brown, gravelly clay, dry, low plasticity, cobbles of concrete.				
1				FILL: Mottled clay, grey, red, orange, brown, dry, stiff, low plasticity.				
2					BH14-2.4-2.5			
3				Soft at 2.7-3.0m. Stiff/weak at 3.0m.				
4					BH14-4.1-4.2			
5				Soft at 4.2m. Stiff at 5.0m.				
6				FILL: Clay, black, organic odour, moist, weak, moderate plasticity. CLAY: Clay, grey-brown becoming orange-red, moist, high plasticity.	BH14-6.2-6.3			
7				CLAY: red/grey, clay, dry, weak, low plasticity.				
8				CLAY: Grey, clay, moist/dry, stiff, moderate plasticity.	BH14-7.9-8.0			
9				**Borehole terminated at 8.2m bgl** **Target depth reached**				

Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

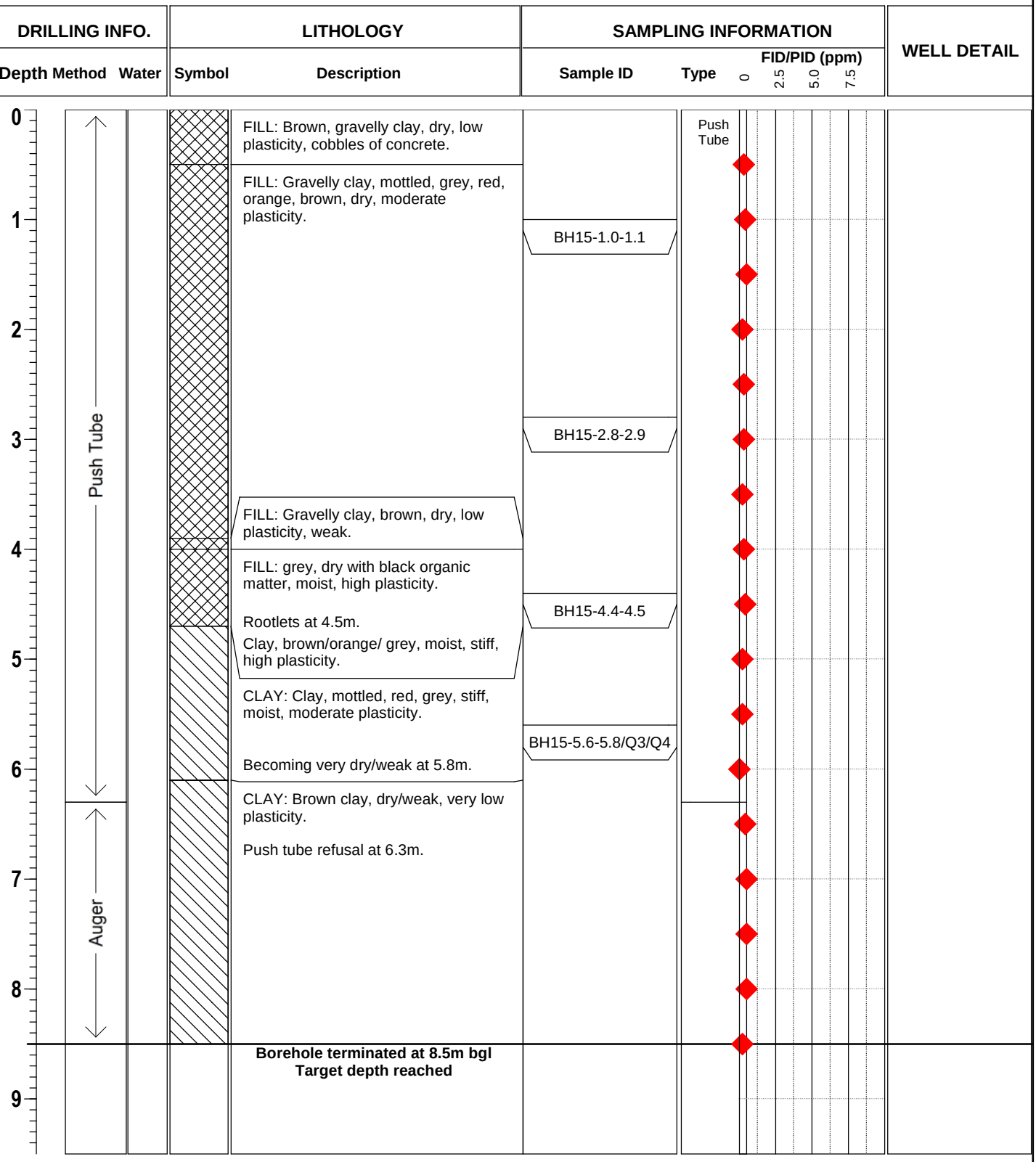
Date Commenced: 18/07/17
Date Completed: 18/07/17
Logged/checked by: EM

Project ID: CES170303-SD
Project: Potts Hill
Client: Mushan Group
Location: 10 Nelson Short St, Potts Hill

Easting: 318240mE
Northing: 6247447mN
Elevation:

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55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

Environmental Log: **BH15**



Drill Company: Numac Drilling
Drill Model:
Hole Diameter (mm): 100

Date Commenced: 18/07/17
Date Completed: 18/07/17
Logged/checked by: EM

Appendix H
Laboratory Certificates

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email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 171307

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Ivan Wong, Darren Hanvey

Sample log in details:

Your Reference:	**CES170303, Potts Hill**
No. of samples:	14 soils
Date samples received / completed instructions received	13/07/17 / 13/07/17

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: / Issue Date:	20/07/17 / 20/07/17
Date of Preliminary Report:	Not Issued

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Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	---------- -	BH01	BH02
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date extracted	-	17/07/2017	17/07/2017
Date analysed	-	18/07/2017	18/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	103	96

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
Depth	- ----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date extracted	-	17/07/2017	17/07/2017
Date analysed	-	18/07/2017	18/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	90	91

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	171307-3 BH01 2.0-2.2 13/07/2017 Soil	171307-7 BH02 1.3-1.5 13/07/2017 Soil
Date extracted	-	17/07/2017	17/07/2017
Date analysed	-	18/07/2017	18/07/2017
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.9
Anthracene	mg/kg	<0.1	0.2
Fluoranthene	mg/kg	0.1	1.4
Pyrene	mg/kg	0.1	1.3
Benzo(a)anthracene	mg/kg	<0.1	0.6
Chrysene	mg/kg	<0.1	0.4
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	0.8
Benzo(a)pyrene	mg/kg	<0.05	0.55
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.4
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	0.7
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	0.7
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	0.7
Total +ve PAH's	mg/kg	0.2	7.1
Surrogate p-Terphenyl-d14	%	123	114

Organochlorine Pesticides in soil			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
	-		
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date extracted	-	17/07/2017	17/07/2017
Date analysed	-	17/07/2017	17/07/2017
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	94	94

Organophosphorus Pesticides			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
	-		
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date extracted	-	17/07/2017	17/07/2017
Date analysed	-	17/07/2017	17/07/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Surrogate TCMX	%	94	94

PCBs in Soil			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
	-		
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date extracted	-	17/07/2017	17/07/2017
Date analysed	-	17/07/2017	17/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	94	94

Acid Extractable metals in soil			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
	-		
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date prepared	-	17/07/2017	17/07/2017
Date analysed	-	17/07/2017	17/07/2017
Arsenic	mg/kg	4	6
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	14	23
Copper	mg/kg	34	56
Lead	mg/kg	15	13
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	16	20
Zinc	mg/kg	68	63

Moisture			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
	-		
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date prepared	-	17/07/2017	17/07/2017
Date analysed	-	18/07/2017	18/07/2017
Moisture	%	12	12

Asbestos ID - soils			
Our Reference:	UNITS	171307-3	171307-7
Your Reference	----------	BH01	BH02
	-		
Depth	----------	2.0-2.2	1.3-1.5
Date Sampled		13/07/2017	13/07/2017
Type of sample		Soil	Soil
Date analysed	-	20/07/2017	20/07/2017
Sample mass tested	g	Approx. 30g	Approx. 70g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-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
Trace Analysis	-	No asbestos detected	No asbestos detected

Method ID	Methodology Summary
Org-016	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-016	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.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	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-003	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-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ 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. 'TEQ 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. 'TEQ 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-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	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.

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-7	18/07/2017
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-7	99%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-7	99%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-7	86%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-7	97%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-7	101%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-7	106%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-7	104%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	113	[NT]	[NT]	LCS-7	104%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	97%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	97%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	106%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	97%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	97%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	106%
Surrogate o-Terphenyl	%		Org-003	85	[NT]	[NT]	LCS-7	115%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-7	18/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-7	111%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-7	100%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-7	108%
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-7	109%
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-7	110%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-7	117%
Benzo(b,j +k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	LCS-7	97%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	109	[NT]	[NT]	LCS-7	102%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	82%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	104%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	109%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	102%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	104%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	108%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	114%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	109%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	113%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	74%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	93	[NT]	[NT]	LCS-7	113%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	90%
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	76%
Dimethoate	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	102%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	105%
Malathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	74%
Parathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	117%
Ronnel	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-7	98%
Surrogate TCMX	%		Org-008	93	[NT]	[NT]	LCS-7	92%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-7	100%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	93	[NT]	[NT]	LCS-7	92%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Date analysed	-			17/07/2017	[NT]	[NT]	LCS-7	17/07/2017
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	LCS-7	104%
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	LCS-7	102%
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-7	105%
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-7	103%
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-7	101%
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	LCS-7	106%
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-7	98%
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-7	99%

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 171307-3 & 7 were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier: Matt Tang

Asbestos ID was authorised by Approved Signatory: Lulu Scott

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

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.

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: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab com au

Perth Lab - MPL Laboratories
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Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: ~~[illegible]~~ CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES170303 POTTS HILL
Contact Person: IVAN WONG	
Project Mgr: DARREN HARVEY	**PO No.:**
Sampler: IVAN WONG	**Envirolab Quote No. :**
Address: 55 GRANDVIEW ST, RYMBLE NSW	**Date results required:** Or choose: standard / same day / 1 day / 2 day / 3 day *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: **Mob:** 04 03 273 626	**Report format:** esdat / equis /
Email: ivan.wong@consultingearth.com.au	**Lab Comments:**

Sample information					Tests Required									Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	8 heavy metals	PAHs	TPH	BTEX	PCBs	OCP	OPP	Asbestos		Provide as much information about the sample as you can
1	BH01 - 0.5-0.7m	0.5-0.7	13/7/17	JAR										For the rest of jar Samples, please keep them on hold.
2	BH01 - 1-1.2m	1.0-1.2												
3	BH01 - 2-2.2m	2.0-2.2			X	X	X	X	X	X	X	X		
4	BH01 - 3-3.2m	3.0-3.2												
5	BH01.4-4.3m	4-4.3m												
6	BH01-5-5.3m	5-5.3m												
7	BH02-1.3-1.5m	1.3-1.5			X	X	X	X	X	X	X	X		
8	BH02 - 2-2.2m	2-2.2												
9	" - 3-3.2m	3-3.2												
10	" - 4-4.2m	4-4.2												
11	" - 5-5.2m	5-5.2												
12	" - 6.5-6.7m	6.5-6.7m												
13	" - 8-8.2m	8-8.2												
14	" - 9-9.2m	9-9.2												

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 171307
Date Received: 13/7/17
Time Received: 17:50
Received by: [illegible]
Temp: Cool / Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Relinquished by (Company): CONSULTING EARTH SCIENTISTS	**Received by (Company):** ENVIROLAB	***Lab use only:***
Print Name: IVAN WONG	**Print Name:** Kevin Ung	**Samples Received:** Cool or Ambient (circle one)
Date & Time: 13/7/17, 6pm	**Date & Time:** 13/7/17	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**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
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Consulting Earth Scientists Pty Ltd
Attention	Ivan Wong, Darren Hanvey

Sample Login Details	
Your Reference	CES170303, Potts Hill
Envirolab Reference	**171307**
Date Sample Received	13/07/2017
Date Instructions Received	13/07/2017
Date Results Expected to be Reported	**20/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	14 soils
Turnaround Time Requested	Standard
Temperature on receipt (°C)	17.9
Cooling Method	None
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

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@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on 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
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

Sample Id	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*Organophosphorus Pesticides*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Asbestos ID - soils*	*On Hold*
BH01-0.5-0.7									✓
BH01-1.0-1.2									✓
BH01-2.0-2.2	✓	✓	✓	✓	✓	✓	✓	✓	
BH01-3.0-3.2									✓
BH01-4-4.3									✓
BH01-5-5.3									✓
BH02-1.3-1.5	✓	✓	✓	✓	✓	✓	✓	✓	
BH02-2-2.2									✓
BH02-3-3.2									✓
BH02-4-4.2									✓
BH02-5-5.2									✓
BH02-6.5-6.7									✓
BH02-8-8.2									✓
BH02-9-9.2									✓

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

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 171428

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Ivan Wong

Sample log in details:

Your Reference:	**CES170303-SD**		
No. of samples:	6 soils		
Date samples received / completed instructions received	14/07/17	/	14/07/17

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: / Issue Date:	21/07/17	/	21/07/17
Date of Preliminary Report:	Not Issued		

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	171428-2
Your Reference	---------- -	BH03
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date extracted	-	18/07/2017
Date analysed	-	19/07/2017
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	109

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date extracted	-	18/07/2017
Date analysed	-	19/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	94

PAHs in Soil		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date extracted	-	18/07/2017
Date analysed	-	19/07/2017
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.3
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.5
Pyrene	mg/kg	0.5
Benzo(a)anthracene	mg/kg	0.2
Chrysene	mg/kg	0.2
Benzo(b,j+k)fluoranthene	mg/kg	0.4
Benzo(a)pyrene	mg/kg	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Total +ve PAH's	mg/kg	2.6
Surrogate p-Terphenyl-d14	%	101

Organochlorine Pesticides in soil		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date extracted	-	18/07/2017
Date analysed	-	18/07/2017
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	88

Organophosphorus Pesticides		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date extracted	-	18/07/2017
Date analysed	-	18/07/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	88

PCBs in Soil		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date extracted	-	18/07/2017
Date analysed	-	18/07/2017
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCLMX	%	88

Acid Extractable metals in soil		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date prepared	-	18/07/2017
Date analysed	-	18/07/2017
Arsenic	mg/kg	8
Cadmium	mg/kg	<0.4
Chromium	mg/kg	12
Copper	mg/kg	35
Lead	mg/kg	14
Mercury	mg/kg	<0.1
Nickel	mg/kg	14
Zinc	mg/kg	66

Moisture		
Our Reference:	UNITS	171428-2
Your Reference	----------	BH03
	-	
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date prepared	-	18/07/2017
Date analysed	-	19/07/2017
Moisture	%	15

Asbestos ID - soils		
Our Reference:	UNITS	171428-2
Your Reference	---------- -	BH03
Depth	----------	2-2.2
Date Sampled		14/07/2017
Type of sample		Soil
Date analysed	-	21/07/2017
Sample mass tested	g	Approx. 35g
Sample Description	-	Brown clayey soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

Method ID	Methodology Summary
Org-016	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-016	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.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	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-003	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-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ 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. 'TEQ 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. 'TEQ 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-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	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.

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			19/07/2017	[NT]	[NT]	LCS-2	19/07/2017
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	85%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	85%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	97%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	94%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	73%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	81%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	75%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	114	[NT]	[NT]	LCS-2	108%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			19/07/2017	[NT]	[NT]	LCS-2	19/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	104%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	104%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	106%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	104%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	104%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	106%
Surrogate o-Terphenyl	%		Org-003	97	[NT]	[NT]	LCS-2	98%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			19/07/2017	[NT]	[NT]	LCS-2	19/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	108%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	101%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	104%
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	112%
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	115%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-2	120%
Benzo(b,j +k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	LCS-2	97%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	105	[NT]	[NT]	LCS-2	127%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	87%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	105%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	110%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	101%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	104%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	106%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	114%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	112%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	115%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-2	95%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	91	[NT]	[NT]	LCS-2	112%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	97%
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	113%
Dimethoate	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	113%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	102%
Malathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	78%
Parathion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	99%
Ronnel	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-2	107%
Surrogate TCMX	%		Org-008	91	[NT]	[NT]	LCS-2	93%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-2	100%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	91	[NT]	[NT]	LCS-2	93%

Client Reference: CES170303-SD

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Date analysed	-			18/07/2017	[NT]	[NT]	LCS-2	18/07/2017
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	LCS-2	109%
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	LCS-2	106%
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	108%
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	109%
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	100%
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	LCS-2	95%
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	104%
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-2	105%

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: Sample 171428-2 was sub-sampled from jar provided by the client.

Asbestos ID was analysed by Approved Identifier: Lucy Zhu
Asbestos ID was authorised by Approved Signatory: Lulu Scott

INS: Insufficient sample for this test
NR: Test not required
<: Less than
PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than
NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

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.

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: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab com au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab com au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 0406 350 706 / adelaide@envirolab.com.au

Client:	Client Project Name / Number / Site etc (ie report title):
Contact Person:	
Project Mgr:	PO No.:
Sampler:	Envirolab Quote No. :
Address:	Date results required:
	Or choose: standard / same day / 1 day / 2 day / 3 day
	Note: Inform Lab in advance if urgent turnaround is required - surcharges apply
Phone: Mob:	Report format: esdat / equis /
Email:	Lab Comments:

Sample information					Tests Required	Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample		Provide as much information about the sample as you can
1						
2						
3						
4						
5						
6						

Envirolab Service...
12 Ashley St
Chatswo... NSW 2067
Ph: (02) 9910 6200

Job No: 171428
Date Received: 14/7/17
Time Received: 18:10
Received by: MT
Temp: Cool/Ambient 18.9
Cooling: Ice/Icepack
Security: Broken/None

Relinquished by (Company):	Received by (Company): ELS	*Lab use only:*
Print Name:	Print Name: MT	Samples Received: Cool or Ambient (circle one)
Date & Time:	Date & Time: 14/7/17 18:10	Temperature Received at: (if applicable)
Signature:	Signature:	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
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	Consulting Earth Scientists Pty Ltd
Attention	Ivan Wong

Sample Login Details	
Your Reference	CES170303-SD
Envirolab Reference	**171428**
Date Sample Received	14/07/2017
Date Instructions Received	14/07/2017
Date Results Expected to be Reported	**21/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	6 soils
Turnaround Time Requested	Standard
Temperature on receipt (°C)	18.9
Cooling Method	None
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

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@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on 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
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

Sample Id	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*Organophosphorus Pesticides*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Asbestos ID - soils*	*On Hold*
BH03-1-1.2									✓
BH03-2-2.2	✓	✓	✓	✓	✓	✓	✓	✓	
BH03-3-3.2									✓
BH03-4-4.2									✓
BH03-5.2-5.4									✓
BH03-6.5-6.7									✓

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

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 171503

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Erin Millar, Tristan Goodbody

Sample log in details:

Your Reference:	**CES170303-SD**
No. of samples:	37 Soils
Date samples received / completed instructions received	17/07/2017 / 17/07/2017

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: / Issue Date:	24/07/17 / 21/07/17
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	171503-1	171503-4	171503-7	171503-10	171503-13
Your Reference	---------- -	BH04/0.8-0.9	BH09/1.1-1.2	BH09/5.3-5.4	BH07/2.0-2.1	BH06/1.2-1.3
Depth	----------	0.8-0.9	1.1-1.2	5.3-5.4	2.0-2.1	1.2-1.3
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - 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
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	100	89	85	87	96

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	171503-19	171503-20	171503-23	171503-28	171503-32
Your Reference	---------- -	BH06/7.6-7.7	BH08/1.6-1.7	BH08/4.4-4.5	BH10/2.0-2.1	BH10/6.0-6.2
Depth	----------	7.6-7.7	1.6-1.7	4.4-4.5	2.0-2.1	6.0-6.2
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - 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
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	86	84	89	88	83

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	171503-1	171503-4	171503-7	171503-10	171503-13
Your Reference	---------- -	BH04/0.8-0.9	BH09/1.1-1.2	BH09/5.3-5.4	BH07/2.0-2.1	BH06/1.2-1.3
Depth	----------	0.8-0.9	1.1-1.2	5.3-5.4	2.0-2.1	1.2-1.3
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - 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	%	92	93	85	85	88

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	171503-19	171503-20	171503-23	171503-28	171503-32
Your Reference	---------- -	BH06/7.6-7.7	BH08/1.6-1.7	BH08/4.4-4.5	BH10/2.0-2.1	BH10/6.0-6.2
Depth	----------	7.6-7.7	1.6-1.7	4.4-4.5	2.0-2.1	6.0-6.2
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - 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	%	85	89	86	84	87

PAHs in Soil Our Reference: Your Reference	UNITS ----------	171503-1 BH04/0.8-0.9	171503-4 BH09/1.1-1.2	171503-10 BH07/2.0-2.1	171503-13 BH06/1.2-1.3	171503-20 BH08/1.6-1.7
Depth	----------	0.8-0.9	1.1-1.2	2.0-2.1	1.2-1.3	1.6-1.7
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Acenaphthylene	mg/kg	<0.1	0.1	<0.1	0.2	0.2
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	1	<0.1	0.6	0.3
Anthracene	mg/kg	<0.1	0.3	<0.1	0.2	0.1
Fluoranthene	mg/kg	0.3	1.2	<0.1	1.6	1.1
Pyrene	mg/kg	0.3	1.3	<0.1	1.6	1.2
Benzo(a)anthracene	mg/kg	0.1	0.6	<0.1	0.7	0.5
Chrysene	mg/kg	0.1	0.5	<0.1	0.6	0.5
Benzo(b,j+k)fluoranthene	mg/kg	0.3	0.7	<0.2	1	1
Benzo(a)pyrene	mg/kg	0.1	0.4	<0.05	0.70	0.64
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.2	<0.1	0.4	0.4
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	0.3	<0.1	0.6	0.5
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	0.6	<0.5	0.9	0.8
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	0.6	<0.5	0.9	0.8
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	0.6	<0.5	0.9	0.8
Total +ve PAH's	mg/kg	1.4	6.6	<0.05	8.5	6.5
Surrogate p-Terphenyl-d14	%	96	102	94	99	100

PAHs in Soil		
Our Reference:	UNITS	171503-28
Your Reference	---------- -	BH10/ 2.0-2.1
Depth	----------	2.0-2.1
Date Sampled		17/07/2017
Type of sample		Soil
Date extracted	-	19/07/2017
Date analysed	-	20/07/2017
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Total +ve PAH's	mg/kg	<0.05
Surrogate p-Terphenyl-d14	%	93

Organochlorine Pesticides in soil						
Our Reference:	UNITS	171503-1	171503-4	171503-10	171503-13	171503-20
Your Reference	----------	BH04/0.8-0.9	BH09/1.1-1.2	BH07/2.0-2.1	BH06/1.2-1.3	BH08/1.6-1.7
	-					
Depth	----------	0.8-0.9	1.1-1.2	2.0-2.1	1.2-1.3	1.6-1.7
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-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
beta-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
pp-DDD	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-DDT	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
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	%	90	90	90	87	91

Organochlorine Pesticides in soil		
Our Reference:	UNITS	171503-28
Your Reference	---------- -	BH10/ 2.0-2.1
Depth	----------	2.0-2.1
Date Sampled		17/07/2017
Type of sample		Soil
Date extracted	-	19/07/2017
Date analysed	-	19/07/2017
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	90

Organophosphorus Pesticides Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	171503-1 BH04/0.8-0.9 0.8-0.9 17/07/2017 Soil	171503-4 BH09/1.1-1.2 1.1-1.2 17/07/2017 Soil	171503-10 BH07/2.0-2.1 2.0-2.1 17/07/2017 Soil	171503-13 BH06/1.2-1.3 1.2-1.3 17/07/2017 Soil	171503-20 BH08/1.6-1.7 1.6-1.7 17/07/2017 Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	90	90	90	87	91

Organophosphorus Pesticides Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- - ---------- 	171503-28 BH10/2.0-2.1 2.0-2.1 17/07/2017 Soil
Date extracted	-	19/07/2017
Date analysed	-	19/07/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate TCMX	%	90

PCBs in Soil						
Our Reference:	UNITS	171503-1	171503-4	171503-10	171503-13	171503-20
Your Reference	---------- -	BH04/0.8-0.9	BH09/1.1-1.2	BH07/2.0-2.1	BH06/1.2-1.3	BH08/1.6-1.7
Depth	----------	0.8-0.9	1.1-1.2	2.0-2.1	1.2-1.3	1.6-1.7
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	90	90	87	91

PCBs in Soil		
Our Reference:	UNITS	171503-28
Your Reference	---------- -	BH10/2.0-2.1
Depth	----------	2.0-2.1
Date Sampled		17/07/2017
Type of sample		Soil
Date extracted	-	19/07/2017
Date analysed	-	19/07/2017
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCLMX	%	90

Acid Extractable metals in soil						
Our Reference:	UNITS	171503-1	171503-4	171503-10	171503-13	171503-20
Your Reference	----------	BH04/0.8-0.9	BH09/1.1-1.2	BH07/2.0-2.1	BH06/1.2-1.3	BH08/1.6-1.7
	-					
Depth	----------	0.8-0.9	1.1-1.2	2.0-2.1	1.2-1.3	1.6-1.7
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Arsenic	mg/kg	6	9	11	9	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	14	10	19	20
Copper	mg/kg	32	33	36	53	37
Lead	mg/kg	14	23	23	23	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	26	18	18	22	29
Zinc	mg/kg	60	76	72	130	59

Acid Extractable metals in soil		
Our Reference:	UNITS	171503-28
Your Reference	----------	BH10/2.0-2.1
	-	
Depth	----------	2.0-2.1
Date Sampled		17/07/2017
Type of sample		Soil
Date prepared	-	19/07/2017
Date analysed	-	19/07/2017
Arsenic	mg/kg	4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	41
Lead	mg/kg	19
Mercury	mg/kg	<0.1
Nickel	mg/kg	20
Zinc	mg/kg	79

Moisture						
Our Reference:	UNITS	171503-1	171503-4	171503-7	171503-10	171503-13
Your Reference	---------- -	BH04/0.8-0.9	BH09/1.1-1.2	BH09/5.3-5.4	BH07/2.0-2.1	BH06/1.2-1.3
Depth	----------	0.8-0.9	1.1-1.2	5.3-5.4	2.0-2.1	1.2-1.3
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Moisture	%	13	14	17	13	12

Moisture						
Our Reference:	UNITS	171503-19	171503-20	171503-23	171503-28	171503-32
Your Reference	---------- -	BH06/7.6-7.7	BH08/1.6-1.7	BH08/4.4-4.5	BH10/2.0-2.1	BH10/6.0-6.2
Depth	----------	7.6-7.7	1.6-1.7	4.4-4.5	2.0-2.1	6.0-6.2
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Moisture	%	17	9.5	14	14	19

Asbestos ID - soils						
Our Reference:	UNITS	171503-1	171503-4	171503-10	171503-13	171503-20
Your Reference	---------- -	BH04/0.8-0.9	BH09/1.1-1.2	BH07/2.0-2.1	BH06/1.2-1.3	BH08/1.6-1.7
Depth	----------	0.8-0.9	1.1-1.2	2.0-2.1	1.2-1.3	1.6-1.7
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 40g
Sample Description	-	Brown clayey soil	Brown clayey soil	Brown clayey soil	Brown clayey soil	Brown clayey soil
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	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	No asbestos detected

Asbestos ID - soils		
Our Reference:	UNITS	171503-28
Your Reference	---------- -	BH10/2.0-2.1
Depth	----------	2.0-2.1
Date Sampled		17/07/2017
Type of sample		Soil
Date analysed	-	21/07/2017
Sample mass tested	g	Approx. 40g
Sample Description	-	Brown clayey soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

Misc Inorg - Soil					
Our Reference:	UNITS	171503-7	171503-19	171503-23	171503-32
Your Reference	---------- -	BH09/5.3-5.4	BH06/7.6-7.7	BH08/4.4-4.5	BH10/6.0-6.2
Depth	----------	5.3-5.4	7.6-7.7	4.4-4.5	6.0-6.2
Date Sampled		17/07/2017	17/07/2017	17/07/2017	17/07/2017
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Total Organic Carbon (Walkley Black)	mg/kg	14,000	1,500	3,200	2,800

Method ID	Methodology Summary
Org-016	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-016	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.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	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-003	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-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ 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. 'TEQ 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. 'TEQ 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-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	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.

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
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-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
$TRHC_6$ - C_9	mg/kg	25	Org-016	<25	171503-1	<25 || <25	LCS-4	90%
$TRHC_6$ - C_{10}	mg/kg	25	Org-016	<25	171503-1	<25 || <25	LCS-4	90%
Benzene	mg/kg	0.2	Org-016	<0.2	171503-1	<0.2 || <0.2	LCS-4	89%
Toluene	mg/kg	0.5	Org-016	<0.5	171503-1	<0.5 || <0.5	LCS-4	85%
Ethylbenzene	mg/kg	1	Org-016	<1	171503-1	<1 || <1	LCS-4	90%
m+p-xylene	mg/kg	2	Org-016	<2	171503-1	<2 || <2	LCS-4	92%
o-Xylene	mg/kg	1	Org-016	<1	171503-1	<1 || <1	LCS-4	93%
naphthalene	mg/kg	1	Org-014	<1	171503-1	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	96	171503-1	100 || 91 || RPD: 9	LCS-4	97%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			20/07/2017	171503-1	20/07/2017 || 20/07/2017	LCS-4	20/07/2017
$TRHC_{10}$ - C_{14}	mg/kg	50	Org-003	<50	171503-1	<50 || <50	LCS-4	112%
$TRHC_{15}$ - C_{28}	mg/kg	100	Org-003	<100	171503-1	<100 || <100	LCS-4	110%
$TRHC_{29}$ - C_{36}	mg/kg	100	Org-003	<100	171503-1	<100 || <100	LCS-4	106%
$TRH>C_{10}$-C_{16}	mg/kg	50	Org-003	<50	171503-1	<50 || <50	LCS-4	112%
$TRH>C_{16}$-C_{34}	mg/kg	100	Org-003	<100	171503-1	<100 || <100	LCS-4	110%
$TRH>C_{34}$-C_{40}	mg/kg	100	Org-003	<100	171503-1	<100 || <100	LCS-4	106%
Surrogate o-Terphenyl	%		Org-003	93	171503-1	92 || 96 || RPD: 4	LCS-4	103%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			20/07/2017	171503-1	20/07/2017 || 20/07/2017	LCS-4	20/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || <0.1	LCS-4	100%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || <0.1	LCS-4	102%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || 0.1	LCS-4	103%
Anthracene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	171503-1	0.3 || 0.3 || RPD: 0	LCS-4	106%
Pyrene	mg/kg	0.1	Org-012	<0.1	171503-1	0.3 || 0.4 || RPD: 29	LCS-4	109%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	171503-1	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	171503-1	0.1 || 0.2 || RPD: 67	LCS-4	118%
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	171503-1	0.3 || 0.3 || RPD: 0	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	171503-1	0.1 || 0.1 || RPD: 0	LCS-4	88%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || 0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	171503-1	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	98	171503-1	96 || 94 || RPD: 2	LCS-4	120%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	75%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	95%
Heptachlor	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	97%
delta-BHC	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	98%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	100%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	101%
Dieldrin	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	110%
Endrin	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	101%
pp-DDD	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	97%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	LCS-4	73%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	92	171503-1	90 || 90 || RPD: 0	LCS-4	113%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	88%
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Diazinon	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	78%
Dimethoate	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	94%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	82%
Malathion	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	74%
Parathion	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	86%
Ronnel	mg/kg	0.1	Org-008	<0.1	171503-1	<0.1 || <0.1	LCS-4	93%
Surrogate TCMX	%		Org-008	92	171503-1	90 || 90 || RPD: 0	LCS-4	90%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	LCS-4	100%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	171503-1	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	92	171503-1	90 || 90 || RPD: 0	LCS-4	90%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Date analysed	-			19/07/2017	171503-1	19/07/2017 || 19/07/2017	LCS-4	19/07/2017
Arsenic	mg/kg	4	Metals-020	<4	171503-1	6 || 6 || RPD: 0	LCS-4	103%
Cadmium	mg/kg	0.4	Metals-020	<0.4	171503-1	<0.4 || <0.4	LCS-4	98%
Chromium	mg/kg	1	Metals-020	<1	171503-1	15 || 18 || RPD: 18	LCS-4	102%
Copper	mg/kg	1	Metals-020	<1	171503-1	32 || 32 || RPD: 0	LCS-4	106%
Lead	mg/kg	1	Metals-020	<1	171503-1	14 || 15 || RPD: 7	LCS-4	99%
Mercury	mg/kg	0.1	Metals-021	<0.1	171503-1	<0.1 || <0.1	LCS-4	122%
Nickel	mg/kg	1	Metals-020	<1	171503-1	26 || 23 || RPD: 12	LCS-4	97%
Zinc	mg/kg	1	Metals-020	<1	171503-1	60 || 51 || RPD: 16	LCS-4	98%

QUALITY CONTROL Misc Inorg - Soil	UNITS	PQL	METHOD	Blank
Date prepared	-			19/07/2017
Date analysed	-			20/07/2017
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	19/07/2017
TRH C_6 - C_9	mg/kg	[NT]	[NT]	171503-4	91%
TRH C_6 - C_{10}	mg/kg	[NT]	[NT]	171503-4	91%
Benzene	mg/kg	[NT]	[NT]	171503-4	90%
Toluene	mg/kg	[NT]	[NT]	171503-4	86%
Ethylbenzene	mg/kg	[NT]	[NT]	171503-4	91%
m+p-xylene	mg/kg	[NT]	[NT]	171503-4	93%
o-Xylene	mg/kg	[NT]	[NT]	171503-4	94%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	171503-4	87%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	20/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	[NT]	[NT]	171503-4	111%
TRHC$_{15}$ - C$_{28}$	mg/kg	[NT]	[NT]	171503-4	110%
TRHC$_{29}$ - C$_{36}$	mg/kg	[NT]	[NT]	171503-4	85%
TRH>C$_{10}$-C$_{16}$	mg/kg	[NT]	[NT]	171503-4	111%
TRH>C$_{16}$-C$_{34}$	mg/kg	[NT]	[NT]	171503-4	110%
TRH>C$_{34}$-C$_{40}$	mg/kg	[NT]	[NT]	171503-4	85%
Surrogate o-Terphenyl	%	[NT]	[NT]	171503-4	93%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	20/07/2017
Naphthalene	mg/kg	[NT]	[NT]	171503-4	98%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	171503-4	98%
Phenanthrene	mg/kg	[NT]	[NT]	171503-4	86%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	171503-4	89%
Pyrene	mg/kg	[NT]	[NT]	171503-4	88%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	171503-4	107%
Benzo(b,j+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	171503-4	84%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	171503-4	117%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	19/07/2017
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	171503-4	80%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	171503-4	97%
Heptachlor	mg/kg	[NT]	[NT]	171503-4	98%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	171503-4	100%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	171503-4	103%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	171503-4	103%
Dieldrin	mg/kg	[NT]	[NT]	171503-4	113%
Endrin	mg/kg	[NT]	[NT]	171503-4	103%
pp-DDD	mg/kg	[NT]	[NT]	171503-4	103%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	171503-4	83%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	171503-4	114%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	19/07/2017
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	171503-4	93%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	171503-4	90%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	171503-4	103%
Fenitrothion	mg/kg	[NT]	[NT]	171503-4	82%
Malathion	mg/kg	[NT]	[NT]	171503-4	73%
Parathion	mg/kg	[NT]	[NT]	171503-4	87%
Ronnel	mg/kg	[NT]	[NT]	171503-4	95%
Surrogate TCMX	%	[NT]	[NT]	171503-4	92%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	19/07/2017
Aroclor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	[NT]	[NT]	171503-4	103%
Aroclor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	171503-4	92%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	171503-4	19/07/2017
Date analysed	-	[NT]	[NT]	171503-4	19/07/2017
Arsenic	mg/kg	[NT]	[NT]	171503-4	88%
Cadmium	mg/kg	[NT]	[NT]	171503-4	86%
Chromium	mg/kg	[NT]	[NT]	171503-4	96%
Copper	mg/kg	[NT]	[NT]	171503-4	109%
Lead	mg/kg	[NT]	[NT]	171503-4	91%
Mercury	mg/kg	[NT]	[NT]	171503-4	124%
Nickel	mg/kg	[NT]	[NT]	171503-4	87%
Zinc	mg/kg	[NT]	[NT]	171503-4	110%

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	171503-7	19/07/2017 || 19/07/2017
Date analysed	-	171503-7	20/07/2017 || 20/07/2017
Total Organic Carbon (Walkley Black)	mg/kg	171503-7	14000 || 14000 || RPD: 0

QUALITY CONTROL Misc Inorg - Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-1	19/07/2017
Date analysed	-	[NT]	[NT]	LCS-1	20/07/2017
Total Organic Carbon (Walkley Black)	mg/kg	[NT]	[NT]	LCS-1	97%

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 171503-1, 4, 10, 13, 20, 28 were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier: Lucy Zhu
Asbestos ID was authorised by Approved Signatory: Lulu Scott

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

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.

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: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

CHAIN OF CUSTODY - Client

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Client Project Name / Number / Site *(ie report title)*: CES170303-SD

Contact Person: ERIN MILLAR

Project Manager: TRISTAN GOODBODY

PO No.:

Sampler: E. MILLAR

Envirolab Quote No. :

Address: PYMBLE

Date results required: ____/____/____

Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Phone: **Mobile:** 0439 241 637

Report format: esdat / equis /

Email:

Lab Comments:

Sample Information					Tests Required										Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date Sampled	Type of Sample	Combo 6A	TPH	BTEX	TOC	HOLD						Provide as much information about the sample as you can
1	BH04-0.8-0.9		17/7	SOIL	X										
2	BH04-4.0-4.2		17/7	SOIL					X						
3	BH04-5.0-5.1		17/7	SOIL					X						
4	BH09-1.1-1.2		17/7	SOIL	X										
5	BH09-3.6-3.7		17/7	SOIL					X						
6	BH09-4.8-5.0		17/7	SOIL					X						
7	BH09-5.3-5.4		17/7	SOIL		X	X	X							
8	BH09-6.5-6.6		17/7	SOIL					X						
9	BH07-0.5-0.7		17/7	SOIL					X						
10	BH07-2.0-2.1		17/7	SOIL	X										
11	BH07-4.5-4.7		17/7	SOIL					X						
12	BH07-6.2-6.3		17/7	SOIL					X						
13	BH06-1.2-1.3		17/7	SOIL	X										

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

Job No: 170503

Date Received: 17.7.17

Time Received: 1700

Received by: JE

Temp: Cool/Ambient 6.1°C

Cooling: Ice/Icepack

Security: Intact/Broken/None

Relinquished by *(Company)*: CES

Print Name: ERIN MILLAR

Date & Time: 17/7/17

Signature:

Received by *(Company)*: ELS

Print Name: JE

Date & Time: 17.7.17 17.00

Signature:

Lab use only:

Samples Received: Cool / Ambient *(circle one)*

Temperature Received at: _____ *(if applicable)*

Transported by: Hand delivered / courier *(circle one)*

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CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

SYDNEY LAB - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

PERTH LAB - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl com.au

MELBOURNE LAB - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

BRISBANE OFFICE - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

ADELAIDE OFFICE - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 08 8369 0722/ 0406 350 706
adelaide@envirolab.com.au

Client:

Contact Person: ERIN MILLAR

Project Manager: TRISTAN GOODBODY

Sampler: E. MILLAR

Address: PYMBLE

Phone: **Mobile:** 0429 261 637

Email:

Client Project Name / Number / Site *(ie report title)*: CES170303 - BD

PO No.:

Envirolab Quote No. :

Date results required: ____/____/____

Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Report format: esdat / equis /

Lab Comments:

Envirolab Sample ID	Client Sample ID or information	Depth	Date Sampled	Type of Sample	Combo 6A	TPH	BTEX	TOC	Hold										Comments
14	BH06 - 2.5 - 2.6		17/7	SOIL					X										
15	BH06 - 3.0 - 3.2		17/7	SOIL					X										
16	BH06 - 4.6 - 4.7		17/7	SOIL					X										
17	BH06 - 5.4 - 5.5		17/7	SOIL					X										
18	BH06 - 6.5 - 6.6		17/7	SOIL					X										
19	BH06 - 7.6 - 7.7		17/7	SOIL		X	X	X											
20	BH08 - 1.0 - 1.1		17/7	SOIL	X														
21	BH08 - 2.1 - 2.2		17/7	SOIL					X										
22	BH08 - 3.1 - 3.2		17/7	SOIL					X										
23	BH08 - 4.4 - 4.5		17/7	SOIL		X	✓	X											
24	BH08 - 6.0 - 6.3		17/7	SOIL					X										
25	BH08 - 7.0 - 7.1		17/7	SOIL					X										
26	BH08 - 7.9 - 8.0		17/7	SOIL					X										

Relinquished by *(Company)*: CES

Print Name: ERIN MILLAR

Date & Time: 17/7/17

Signature:

Received by *(Company)*:

Print Name:

Date & Time:

Signature:

Lab use only:

Samples Received: Cool / Ambient *(circle one)*

Temperature Received at: _____ *(if applicable)*

Transported by: Hand delivered / courier *(circle one)*

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ADELAIDE OFFICE - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 08 8369 0722/ 0406 350 706
adelaide@envirolab.com.au

Client:

Client Project Name / Number / Site *(re report title)*: CES170303-BD

Contact Person: ERIN MILLAR

Project Manager: TRISTAN GOODBODY

PO No.:

Sampler: E. MILLAR

Envirolab Quote No. :

Address: PYMBLE

Date results required: ____/____/____

Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Phone: **Mobile:** 0429 261 637

Report format: esdat / equis /

Email:

Lab Comments:

Envirolab Sample ID	Client Sample ID or Information	Depth	Date Sampled	Type of Sample	8 Heavy Metals	PAHs	TPH	BTEX	PCBs	OCP	OPP	Asbestos	TCLP	Hold	Comments
27	BH10-1.0-1.1		17/7	SOIL										X	Provide as much information about the sample as you can
28	BH10-2.0-2.1		17/7	SOIL	X	X	X	X	X	X	X	X			
29	BH10-3.0-3.3		17/7	SOIL										X	
30	BH10-4.0-4.1		17/7	SOIL										X	
31	BH10-5.0-5.1		17/7	SOIL										X	
32	BH10-6.0-6.2		17/7	SOIL			X	X					X		
33	QA1C1		17/7	SOIL										X	
34	QA1C2		17/7	SOIL										X	* Combo 6A(?) is applicable.
35	BH04-2.5-2.7			SOIL											
36	BH09 2.2-2.3			SOIL											
37	BH10-7.1-7.3			SOIL											

Extra J.C

Relinquished by *(Company)*: CES

Print Name: ERIN MILLAR

Date & Time: 17/7/17

Signature:

Received by *(Company)*: ELS

Print Name: JG

Date & Time: 17.7.17 17.00

Signature:

Lab use only:

Samples Received: Cool / Ambient *(circle one)*

Temperature Received at: _____ *(if applicable)*

Transported by: Hand delivered / courier *(circle one)*

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	Consulting Earth Scientists Pty Ltd
Attention	Erin Millar, Tristan Goodbody

Sample Login Details	
Your Reference	CES170303-SD
Envirolab Reference	**171503**
Date Sample Received	17/07/2017
Date Instructions Received	17/07/2017
Date Results Expected to be Reported	**24/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	37 Soils
Turnaround Time Requested	Standard
Temperature on receipt (°C)	6.1
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

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@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on 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
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

Sample Id	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils	Total Organic Carbon (Walkley Black)	On Hold
BH04/ 0.8-0.9-0.8-0.9	✓	✓	✓	✓	✓	✓	✓	✓		
BH04/ 4.0-4.2-4.0-4.2										✓
BH04/ 5.0-5.1-5.0-5.1										✓
BH09/ 1.1-1.2-1.1-1.2	✓	✓	✓	✓	✓	✓	✓	✓		
BH09/ 3.6-3.7-3.6-3.7										✓
BH09/ 4.8-5.0-4.8-5.0										✓
BH09/ 5.3-5.4-5.3-5.4	✓	✓							✓	
BH09/ 6.5-6.6-6.5-6.6										✓
BH07/ 0.5-0.7-0.5-0.7										✓
BH07/ 2.0-2.1-2.0-2.1	✓	✓	✓	✓	✓	✓	✓	✓		
BH07/ 4.5-4.7-4.5-4.7										✓
BH07/ 6.2-6.3-6.2-6.3										✓
BH06/ 1.2-1.3-1.2-1.3	✓	✓	✓	✓	✓	✓	✓	✓		
BH06/ 2.5-2.6-2.5-2.6										✓
BH06/ 3.0-3.2-3.0-3.2										✓
BH06/ 4.0-4.2-4.0-4.2										✓
BH06/ 5.4-5.5-5.4-5.5										✓
BH06/ 6.5-6.6-6.5-6.6										✓
BH06/ 7.6-7.7-7.6-7.7	✓	✓							✓	
BH08/ 1.6-1.7-1.6-1.7	✓	✓	✓	✓	✓	✓	✓	✓		
BH08/ 2.1-2.2-2.1-2.2										✓

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

Sample Id	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*Organophosphorus Pesticides*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Asbestos ID - soils*	*Total Organic Carbon (Walkley Black)*	*On Hold*
BH08/ 3.1-3.2-3.1-3.2										✓
BH08/ 4.4-4.5-4.4-4.5	✓	✓							✓	
BH08/ 6.0-6.3-6.0-6.3										✓
BH08/ 7.0-7.1-7.0-7.1										✓
BH08/ 7.9-8.0-7.9-8.0										✓
BH10/ 1.0-1.1-1.0-1.1										✓
BH10/ 2.0-2.1-2.0-2.1	✓	✓	✓	✓	✓	✓	✓	✓		
BH10/ 3.0-3.3-3.0-3.3										✓
BH10/ 4.0-4.1-4.0-4.1										✓
BH10/ 5.0-5.1-5.0-5.1										✓
BH10/ 6.0-6.2-6.0-6.2	✓	✓							✓	
QAQC1										✓
QAQC2										✓
BH04/ 2.5-2.7-2.5-2.7										✓
BH09/ 2.2-2.3-2.2-2.3										✓
BH10/ 7.1-7.3-7.1-7.3										✓

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 171621

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Erin Millar, Tristan Goodbody

Sample log in details:

Your Reference:	**CES170303-SD**		
No. of samples:	27 Soils		
Date samples received / completed instructions received	18/07/2017	/	18/07/2017

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: / Issue Date:	25/07/17	/	25/07/17
Date of Preliminary Report:	Not Issued		

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Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	171621-2	171621-4	171621-5	171621-8	171621-9
Your Reference	---------- -	BH05/2.0-2.1	BH05/4.3-4.4	BH15/1.0-1.1	BH15/5.6-5.8	BH14/2.4-2.5
Depth	----------	2.0-2.1	4.3-4.4	1.0-1.1	5.6-5.8	2.4-2.5
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - 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
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	70	106	100	95

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	171621-11	171621-15	171621-16	171621-20	171621-23
Your Reference	---------- -	Q1	BH11/1.9-2.0	BH11/3.5-3.6	BH13/2.8-2.9	BH12/0.5-0.6
Depth	----------	-	1.9-2.0	3.5-3.6	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - 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
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	99	103	100	100

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	171621-24
Your Reference	---------- -	BH12/ 5.0-5.1
Depth	----------	5.0-5.1
Date Sampled		18/07/2017
Type of sample		Soil
Date extracted	-	20/07/2017
Date analysed	-	21/07/2017
TRHC$_6$ - C$_9$	mg/kg	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	104

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	171621-2	171621-4	171621-5	171621-8	171621-9
Your Reference	---------- -	BH05/2.0-2.1	BH05/4.3-4.4	BH15/1.0-1.1	BH15/5.6-5.8	BH14/2.4-2.5
Depth	----------	2.0-2.1	4.3-4.4	1.0-1.1	5.6-5.8	2.4-2.5
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - 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	%	87	96	98	97	96

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	171621-11	171621-15	171621-16	171621-20	171621-23
Your Reference	---------- -	Q1	BH11/1.9-2.0	BH11/3.5-3.6	BH13/2.8-2.9	BH12/0.5-0.6
Depth	----------	-	1.9-2.0	3.5-3.6	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - 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	%	102	95	95	96	97

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	171621-24
Your Reference	---------- -	BH12/ 5.0-5.1
Depth	----------	5.0-5.1
Date Sampled		18/07/2017
Type of sample		Soil
Date extracted	-	20/07/2017
Date analysed	-	21/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	95

PAHs in Soil Our Reference: Your Reference	UNITS ----------	171621-2 BH05/2.0-2.1	171621-5 BH15/1.0-1.1	171621-9 BH14/2.4-2.5	171621-11 Q1	171621-15 BH11/1.9-2.0
Depth	----------	2.0-2.1	1.0-1.1	2.4-2.5	-	1.9-2.0
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.4	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.5	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	0.3	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.2	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	2.3	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	102	98	99	96	105

PAHs in Soil Our Reference: Your Reference	UNITS ----------	171621-20 BH13/ 2.8-2.9	171621-23 BH12/ 0.5-0.6
Depth	-	2.8-2.9	0.5-0.6
Date Sampled	----------	18/07/2017	18/07/2017
Type of sample		Soil	Soil
Date extracted	-	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	0.1	1.2
Anthracene	mg/kg	<0.1	0.2
Fluoranthene	mg/kg	0.7	3.4
Pyrene	mg/kg	0.7	3.3
Benzo(a)anthracene	mg/kg	0.2	1.0
Chrysene	mg/kg	0.3	1.1
Benzo(b,j+k)fluoranthene	mg/kg	0.4	2
Benzo(a)pyrene	mg/kg	0.3	1.4
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	0.9
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.3	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	1.8
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	1.8
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	1.8
Total +ve PAH's	mg/kg	3.2	16
Surrogate p-Terphenyl-d14	%	97	100

Organochlorine Pesticides in soil						
Our Reference:	UNITS	171621-2	171621-5	171621-9	171621-11	171621-15
Your Reference	---------- -	BH05/2.0-2.1	BH15/1.0-1.1	BH14/2.4-2.5	Q1	BH11/1.9-2.0
Depth	----------	2.0-2.1	1.0-1.1	2.4-2.5	-	1.9-2.0
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-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
beta-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
pp-DDD	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-DDT	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
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	%	94	93	90	91	91

Organochlorine Pesticides in soil			
Our Reference:	UNITS	171621-20	171621-23
Your Reference	---------- -	BH13/ 2.8-2.9	BH12/ 0.5-0.6
Depth	----------	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017
Type of sample		Soil	Soil
Date extracted	-	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	103	90

Organophosphorus Pesticides Our Reference: Your Reference	UNITS ----------	171621-2 BH05/2.0-2.1	171621-5 BH15/1.0-1.1	171621-9 BH14/2.4-2.5	171621-11 Q1	171621-15 BH11/1.9-2.0
Depth	----------	2.0-2.1	1.0-1.1	2.4-2.5	-	1.9-2.0
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Azinphos-methyl (Guthion)	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
Chlorpyriphos	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
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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
Ethion	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
Parathion	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
Surrogate TCMX	%	94	93	90	91	91

Organophosphorus Pesticides Our Reference: Your Reference	UNITS ----------	171621-20 BH13/2.8-2.9	171621-23 BH12/0.5-0.6
Depth	----------	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017
Type of sample		Soil	Soil
Date extracted	-	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Surrogate TCMX	%	103	90

PCBs in Soil						
Our Reference:	UNITS	171621-2	171621-5	171621-9	171621-11	171621-15
Your Reference	----------	BH05/2.0-2.1	BH15/1.0-1.1	BH14/2.4-2.5	Q1	BH11/1.9-2.0
	-					
Depth	----------	2.0-2.1	1.0-1.1	2.4-2.5	-	1.9-2.0
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	94	93	90	91	91

PCBs in Soil			
Our Reference:	UNITS	171621-20	171621-23
Your Reference	----------	BH13/2.8-2.9	BH12/0.5-0.6
	-		
Depth	----------	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017
Type of sample		Soil	Soil
Date extracted	-	20/07/2017	20/07/2017
Date analysed	-	20/07/2017	20/07/2017
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	103	90

Acid Extractable metals in soil						
Our Reference:	UNITS	171621-2	171621-5	171621-9	171621-11	171621-15
Your Reference	----------	BH05/2.0-2.1	BH15/1.0-1.1	BH14/2.4-2.5	Q1	BH11/1.9-2.0
	-					
Depth	----------	2.0-2.1	1.0-1.1	2.4-2.5	-	1.9-2.0
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
Arsenic	mg/kg	4	10	<4	<4	11
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	18	11	11	11
Copper	mg/kg	34	38	57	35	36
Lead	mg/kg	19	25	18	13	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	21	19	17	19
Zinc	mg/kg	75	74	88	63	72

Acid Extractable metals in soil			
Our Reference:	UNITS	171621-20	171621-23
Your Reference	----------	BH13/2.8-2.9	BH12/0.5-0.6
	-		
Depth	----------	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017
Type of sample		Soil	Soil
Date prepared	-	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017
Arsenic	mg/kg	10	5
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	13	12
Copper	mg/kg	20	34
Lead	mg/kg	15	18
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	15	10
Zinc	mg/kg	48	130

Moisture						
Our Reference:	UNITS	171621-2	171621-4	171621-5	171621-8	171621-9
Your Reference	---------- -	BH05/2.0-2.1	BH05/4.3-4.4	BH15/1.0-1.1	BH15/5.6-5.8	BH14/2.4-2.5
Depth	----------	2.0-2.1	4.3-4.4	1.0-1.1	5.6-5.8	2.4-2.5
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
Moisture	%	17	23	14	18	15

Moisture						
Our Reference:	UNITS	171621-11	171621-15	171621-16	171621-20	171621-23
Your Reference	---------- -	Q1	BH11/1.9-2.0	BH11/3.5-3.6	BH13/2.8-2.9	BH12/0.5-0.6
Depth	----------	-	1.9-2.0	3.5-3.6	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Date analysed	-	21/07/2017	21/07/2017	21/07/2017	21/07/2017	21/07/2017
Moisture	%	17	14	20	23	12

Moisture		
Our Reference:	UNITS	171621-24
Your Reference	---------- -	BH12/5.0-5.1
Depth	----------	5.0-5.1
Date Sampled		18/07/2017
Type of sample		Soil
Date prepared	-	20/07/2017
Date analysed	-	21/07/2017
Moisture	%	16

Asbestos ID - soils						
Our Reference:	UNITS	171621-2	171621-5	171621-9	171621-11	171621-15
Your Reference	---------- -	BH05/2.0-2.1	BH15/1.0-1.1	BH14/2.4-2.5	Q1	BH11/1.9-2.0
Depth	----------	2.0-2.1	1.0-1.1	2.4-2.5	-	1.9-2.0
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	24/07/2017	24/07/2017	24/07/2017	24/07/2017	24/07/2017
Sample mass tested	g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g	Approx. 35g
Sample Description	-	Brown clayey soil	Brown clayey soil	Brown clayey soil	Brown clayey soil	Brown clayey soil
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	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	No asbestos detected

Asbestos ID - soils			
Our Reference:	UNITS	171621-20	171621-23
Your Reference	---------- -	BH13/2.8-2.9	BH12/0.5-0.6
Depth	----------	2.8-2.9	0.5-0.6
Date Sampled		18/07/2017	18/07/2017
Type of sample		Soil	Soil
Date analysed	-	24/07/2017	24/07/2017
Sample mass tested	g	Approx. 30g	Approx. 35g
Sample Description	-	Brown clayey soil	Brown clayey soil
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
Trace Analysis	-	No asbestos detected	No asbestos detected

Misc Inorg - Soil						
Our Reference:	UNITS	171621-4	171621-8	171621-10	171621-16	171621-24
Your Reference	---------- -	BH05/4.3-4.4	BH15/5.6-5.8	Q3	BH11/3.5-3.6	BH12/5.0-5.1
Depth	----------	4.3-4.4	5.6-5.8	-	3.5-3.6	5.0-5.1
Date Sampled		18/07/2017	18/07/2017	18/07/2017	18/07/2017	18/07/2017
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	19/07/2017	19/07/2017	19/07/2017	19/07/2017	19/07/2017
Date analysed	-	20/07/2017	20/07/2017	20/07/2017	20/07/2017	20/07/2017
Total Organic Carbon (Walkley Black)	mg/kg	2,900	4,600	4,200	3,900	14,000

Method ID	Methodology Summary
Org-016	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-016	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.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	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-003	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-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ 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. 'TEQ 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. 'TEQ 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-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. 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.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	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.

Method ID	Methodology Summary
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
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-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			21/07/2017	171621-2	21/07/2017 || 21/07/2017
TRHC6 - C9	mg/kg	25	Org-016	<25	171621-2	<25 || <25
TRHC6 - C10	mg/kg	25	Org-016	<25	171621-2	<25 || <25
Benzene	mg/kg	0.2	Org-016	<0.2	171621-2	<0.2 || <0.2
Toluene	mg/kg	0.5	Org-016	<0.5	171621-2	<0.5 || <0.5
Ethylbenzene	mg/kg	1	Org-016	<1	171621-2	<1 || <1
m+p-xylene	mg/kg	2	Org-016	<2	171621-2	<2 || <2
o-Xylene	mg/kg	1	Org-016	<1	171621-2	<1 || <1
naphthalene	mg/kg	1	Org-014	<1	171621-2	<1 || <1
Surrogate aaa-Trifluorotoluene	%		Org-016	79	171621-2	96 || 83 || RPD: 15

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			21/07/2017	171621-2	21/07/2017 || 21/07/2017
TRHC10 - C14	mg/kg	50	Org-003	<50	171621-2	<50 || <50
TRHC15 - C28	mg/kg	100	Org-003	<100	171621-2	<100 || <100
TRHC29 - C36	mg/kg	100	Org-003	<100	171621-2	<100 || <100
TRH>C10-C16	mg/kg	50	Org-003	<50	171621-2	<50 || <50
TRH>C16-C34	mg/kg	100	Org-003	<100	171621-2	<100 || <100
TRH>C34-C40	mg/kg	100	Org-003	<100	171621-2	<100 || <100
Surrogate o-Terphenyl	%		Org-003	100	171621-2	87 || 96 || RPD: 10

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Acenaphthene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Fluorene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Phenanthrene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Anthracene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Fluoranthene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Pyrene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Chrysene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	171621-2	<0.2 || <0.2

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	171621-2	<0.05 || <0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	171621-2	<0.1 || <0.1
Surrogate p-Terphenyl-d14	%		Org-012	102	171621-2	102 || 90 || RPD: 12
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
HCB	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
alpha-BHC	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
gamma-BHC	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
beta-BHC	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Heptachlor	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
delta-BHC	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Aldrin	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Endosulfan I	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
pp-DDE	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Dieldrin	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Endrin	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
pp-DDD	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Endosulfan II	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
pp-DDT	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Methoxychlor	mg/kg	0.1	Org-005	<0.1	171621-2	<0.1 || <0.1
Surrogate TCMX	%		Org-005	94	171621-2	94 || 95 || RPD: 1

QUALITY CONTROL Organophosphorus Pesticides	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Chlorpyriphos	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Chlorpyriphos-methyl	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Diazinon	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Dichlorvos	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Dimethoate	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Ethion	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Fenitrothion	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Malathion	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Parathion	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Ronnel	mg/kg	0.1	Org-008	<0.1	171621-2	<0.1 || <0.1
Surrogate TCMX	%		Org-008	94	171621-2	94 || 95 || RPD: 1

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date extracted	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	171621-2	<0.1 || <0.1
Surrogate TCLMX	%		Org-006	94	171621-2	94 || 95 || RPD: 1

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD
Date prepared	-			20/07/2017	171621-2	20/07/2017 || 20/07/2017
Date analysed	-			21/07/2017	171621-2	21/07/2017 || 21/07/2017
Arsenic	mg/kg	4	Metals-020	<4	171621-2	4 || <4
Cadmium	mg/kg	0.4	Metals-020	<0.4	171621-2	<0.4 || <0.4
Chromium	mg/kg	1	Metals-020	<1	171621-2	11 || 12 || RPD: 9
Copper	mg/kg	1	Metals-020	<1	171621-2	34 || 33 || RPD: 3
Lead	mg/kg	1	Metals-020	<1	171621-2	19 || 16 || RPD: 17
Mercury	mg/kg	0.1	Metals-021	<0.1	171621-2	<0.1 || <0.1
Nickel	mg/kg	1	Metals-020	<1	171621-2	18 || 18 || RPD: 0
Zinc	mg/kg	1	Metals-020	<1	171621-2	75 || 72 || RPD: 4

QUALITY CONTROL Misc Inorg - Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			19/07/2017	[NT]	[NT]	LCS-1	19/07/2017
Date analysed	-			20/07/2017	[NT]	[NT]	LCS-1	20/07/2017
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	[NT]	[NT]	LCS-1	97%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	171621-24	20/07/2017 || 20/07/2017	LCS-7	20/07/2017
Date analysed	-	171621-24	21/07/2017 || 21/07/2017	LCS-7	21/07/2017
TRHC$_6$ - C$_9$	mg/kg	171621-24	<25 || <25	LCS-7	113%
TRHC$_6$ - C$_{10}$	mg/kg	171621-24	<25 || <25	LCS-7	113%
Benzene	mg/kg	171621-24	<0.2 || <0.2	LCS-7	113%
Toluene	mg/kg	171621-24	<0.5 || <0.5	LCS-7	110%
Ethylbenzene	mg/kg	171621-24	<1 || <1	LCS-7	112%
m+p-xylene	mg/kg	171621-24	<2 || <2	LCS-7	115%
o-Xylene	mg/kg	171621-24	<1 || <1	LCS-7	115%
naphthalene	mg/kg	171621-24	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	171621-24	104 || 103 || RPD: 1	LCS-7	120%

Client Reference: CES170303-SD

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	171621-24	20/07/2017 || 20/07/2017	LCS-7	20/07/2017
Date analysed	-	171621-24	21/07/2017 || 21/07/2017	LCS-7	21/07/2017
TRHC$_{10}$ - C$_{14}$	mg/kg	171621-24	<50 || <50	LCS-7	114%
TRHC$_{15}$ - C$_{28}$	mg/kg	171621-24	<100 || <100	LCS-7	112%
TRHC$_{29}$ - C$_{36}$	mg/kg	171621-24	<100 || <100	LCS-7	91%
TRH>C$_{10}$-C$_{16}$	mg/kg	171621-24	<50 || <50	LCS-7	114%
TRH>C$_{16}$-C$_{34}$	mg/kg	171621-24	<100 || <100	LCS-7	112%
TRH>C$_{34}$-C$_{40}$	mg/kg	171621-24	<100 || <100	LCS-7	91%
Surrogate o-Terphenyl	%	171621-24	95 || 104 || RPD: 9	LCS-7	123%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-7	20/07/2017
Date analysed	-	[NT]	[NT]	LCS-7	20/07/2017
Naphthalene	mg/kg	[NT]	[NT]	LCS-7	104%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	LCS-7	104%
Phenanthrene	mg/kg	[NT]	[NT]	LCS-7	106%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	LCS-7	104%
Pyrene	mg/kg	[NT]	[NT]	LCS-7	103%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	LCS-7	117%
Benzo(b,j+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	LCS-7	108%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	LCS-7	115%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-7	20/07/2017
Date analysed	-	[NT]	[NT]	LCS-7	20/07/2017
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	LCS-7	82%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	LCS-7	104%
Heptachlor	mg/kg	[NT]	[NT]	LCS-7	107%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	LCS-7	99%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	LCS-7	102%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	LCS-7	102%
Dieldrin	mg/kg	[NT]	[NT]	LCS-7	112%
Endrin	mg/kg	[NT]	[NT]	LCS-7	102%
pp-DDD	mg/kg	[NT]	[NT]	LCS-7	112%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	LCS-7	88%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	LCS-7	110%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-7	20/07/2017
Date analysed	-	[NT]	[NT]	LCS-7	20/07/2017
Azinphos-methyl (Guthion)	mg/kg	[NT]	[NT]	[NR]	[NR]
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	LCS-7	90%
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dichlorvos	mg/kg	[NT]	[NT]	LCS-7	78%
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	LCS-7	94%
Fenitrothion	mg/kg	[NT]	[NT]	LCS-7	103%
Malathion	mg/kg	[NT]	[NT]	LCS-7	76%
Parathion	mg/kg	[NT]	[NT]	LCS-7	92%
Ronnel	mg/kg	[NT]	[NT]	LCS-7	97%
Surrogate TCMX	%	[NT]	[NT]	LCS-7	92%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	LCS-7	20/07/2017
Date analysed	-	[NT]	[NT]	LCS-7	20/07/2017
Aroclor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	[NT]	[NT]	LCS-7	100%
Aroclor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	LCS-7	92%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-7	20/07/2017
Date analysed	-	[NT]	[NT]	LCS-7	21/07/2017
Arsenic	mg/kg	[NT]	[NT]	LCS-7	103%
Cadmium	mg/kg	[NT]	[NT]	LCS-7	96%
Chromium	mg/kg	[NT]	[NT]	LCS-7	99%
Copper	mg/kg	[NT]	[NT]	LCS-7	99%
Lead	mg/kg	[NT]	[NT]	LCS-7	94%
Mercury	mg/kg	[NT]	[NT]	LCS-7	123%
Nickel	mg/kg	[NT]	[NT]	LCS-7	95%
Zinc	mg/kg	[NT]	[NT]	LCS-7	97%

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 171621-2, 5, 9, 11, 15, 20, 23 were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier: Lucy Zhu

Asbestos ID was authorised by Approved Signatory: Lulu Scott

INS: Insufficient sample for this test
NR: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

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.

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: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

SYDNEY LAB - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

PERTH LAB - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

MELBOURNE LAB - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

BRISBANE OFFICE - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

ADELAIDE OFFICE - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 08 8369 0722/ 0406 350 706
adelaide@envirolab.com.au

Client:

Client Project Name / Number / Site *(ie report title)*: CES170303-BD

Contact Person: ERIN MILLAR

Project Manager: TRISTAN GOODBODY

PO No.:

Sampler: E. MILLAR

Envirolab Quote No. :

Address: PYMBLE

Date results required: ____/____/____

Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Phone: **Mobile:** 0439 261 637

Email: erin.millar@consultingearth.com.au

Report format: esdat / equis /

Lab Comments:

Sample Information					Tests Required										Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date Sampled	Type of Sample	Combo 6A	TPH	BTEX	TOC	Hold						Provide as much information about the sample as you can
1	BH05-0.9-1.0		16/7	Soil					X						
2	BH05-2.0-2.1				X										
3	BH05-3.4-3.6								X						
4	BH05-4.3-4.4								X						
5	BH15-1.0-1.1				X										
6	BH15-2.8-2.9								X						
7	BH15-4.4-4.5								X						
8	BH15-5.6-5.8					X	X	X							
9	BH14-2.5-2.5				X				Hold						
10	Q3							X							
—	Q4				Please forward to ALS for BTEX, TPH, TOC.										
11	Q1				X										
—	Q2				Please forward to ALS for Combo 6A analytes.										

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

Job No: 171621
Date Received: 16/7
Time Received: 17:00
Received by: JAK
Temp: Cool / Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Relinquished by *(Company)*: CES

Print Name: ERIN MILLAR

Date & Time: 18/7/17

Signature:

Received by *(Company)*: ELS

Print Name: James

Date & Time: 16/7 17.00

Signature:

Lab use only:

Samples Received: Cool / Ambient *(circle one)*

Temperature Received at: _____ *(if applicable)*

Transported by: Hand delivered / courier *(circle one)*

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

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12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

PERTH LAB - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com au

MELBOURNE LAB - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

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20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

ADELAIDE OFFICE - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 08 8369 0722/ 0406 350 706
adelaide@envirolab.com au

Client:

Contact Person: ERIN MILLAR

Project Manager: TRISTAN GOODBODY

Sampler: E. MILLAR

Address: PYMBLE

Phone: **Mobile:** 0429 261 637

Email: erin.mill@cavanbyerth.com.au

Client Project Name / Number / Site *(ie report title)*: CES170303-SD

PO No.:

Envirolab Quote No. :

Date results required: ____/____/____

Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply

Report format: esdat / equis /

Lab Comments:

Sample Information

Envirolab Sample ID	Client Sample ID or information	Depth	Date Sampled	Type of Sample
12	BH14-0.1-0.2		18/7	Soil
13	BH14-0.2-0.3			
14	BH14-7.9-8.0			
15	BH11-1.9-2.0			
16	BH11-3.5-3.6			
17	BH11-4.4-4.5			
18	BH11-5.9-6.0			
19	BH11-7.9-8.0			
20	BH13-2.8-2.9			
21	BH13-4.2-4.3			
22	BH13-7.0-7.1			
23	BH12-0.5-0.6			
24	BH12-5.0-5.1			

Tests Required

Envirolab Sample ID	COMBO 6A	TPH	BTEX	PCB	HOLD
12					X
13					X
14					X
15	X				
16					X
17					X
18					X
19					X
20	X				
21					X
22					X
23	X				
24					X

Comments

Provide as much information about the sample as you can

Relinquished by *(Company)*: CES

Print Name: ERIN MILLAR

Date & Time: 18/7/17

Signature:

Received by *(Company)*: ELS

Print Name: James

Date & Time: 18/7 17.00

Signature:

Lab use only:

Samples Received: Cool / Ambient *(circle one)*

Temperature Received at: _____ *(if applicable)*

Transported by: Hand delivered / courier *(circle one)*

Extra JAG

25	BH11-6.0-6.1	Soil
26	BH12-2.4-2.5	↓
27	BH12-6.7-6.8	

WHITE - LAB COPY / BLUE - CLIENT COPY / PINK - RETAIN IN BOOK

Simon Song

From: Erin Millar <erin.millar@consultingearth.com.au>
Sent: Wednesday, 19 July 2017 4:26 PM
To: Simon Song
Cc: tristan.goodbody@consultingearth.com.au
Subject: RE: Sample Receipt for 171621 CES170303-SD

Hi Simon,

Could I also have the following samples tested for TPH, BTEX and TOC:

- BH11-3.5-3.6 -16
- BH12-5.0-5.1 - 24
- BH04-4.3-4.4 - 4

If you require any further information, please do not hesitate to contact me.

Kind Regards,

Erin Millar
Environmental Scientist

CONSULTING EARTH SCIENTISTS

www.consultingearth.com.au

Suite 3, Level 1
55, Grandview Street
Pymble, NSW, 2073
Tel: +61 2 8569 2200 Fax: +61 2 9983 0582 M: +61 439 261 637
ABN 67 151 524 757

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From: Simon Song [mailto:SSong@envirolab.com.au]
Sent: Wednesday, 19 July 2017 1:47 PM
To: tristangoodbody@consultingearth.com.au; erin.millar@consultingearth.com.au
Subject: Sample Receipt for 171621 CES170303-SD

Please refer to attached for a copy of your COC and our Sample Receipt Advice (SRA).
Please open and read the SRA as it contains important information.
Please let the lab know immediately if there are any issues.

Results will be available by 6.30pm on the date indicated.

PLEASE NOTE COMBO PRICES WILL ONLY APPLY IF COMBOS ARE SELECTED ON COC.

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

SAMPLE RECEIPT ADVICE

Client Details	
Client	Consulting Earth Scientists Pty Ltd
Attention	Erin Millar, Tristan Goodbody

Sample Login Details	
Your Reference	CES170303-SD
Envirolab Reference	**171621**
Date Sample Received	18/07/2017
Date Instructions Received	18/07/2017
Date Results Expected to be Reported	**25/07/2017**

Sample Condition	
Samples received in appropriate condition for analysis	YES
No. of Samples Provided	27 Soils
Turnaround Time Requested	Standard
Temperature on receipt (°C)	4.8
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples

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@envirolabservices.com.au	Email: jhurst@envirolabservices.com.au

Sample and Testing Details on 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
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

Sample Id	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*Organophosphorus Pesticides*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Asbestos ID - soils*	*Total Organic Carbon (Walkley Black)*	*On Hold*
BH05/ 0.9-1.0-0.9-1.0										✓
BH05/ 2.0-2.1-2.0-2.1	✓	✓	✓	✓	✓	✓	✓	✓		
BH05/ 3.4-3.6-3.4-3.6										✓
BH05/ 4.3-4.4-4.3-4.4										✓
BH15/ 1.0-1.1-1.0-1.1	✓	✓	✓	✓	✓	✓	✓	✓		
BH15/ 2.8-2.9-2.8-2.9										✓
BH15/ 4.4-4.5-4.4-4.5										✓
BH15/ 5.6-5.8-5.6-5.8	✓	✓							✓	
BH14/ 2.4-2.5-2.4-2.5	✓	✓	✓	✓	✓	✓	✓	✓		
Q3									✓	
Q1	✓	✓	✓	✓	✓	✓	✓	✓		
BH14/ 4.1-4.2-4.1-4.2										✓
BH14/ 6.2-6.3-6.2-6.3										✓
BH14/ 7.9-8.0-7.9-8.0										✓
BH11/ 1.9-2.0-1.9-2.0	✓	✓	✓	✓	✓	✓	✓	✓		
BH11/ 3.5-3.6-3.5-3.6										✓
BH11/ 4.4-4.5-4.4-4.5										✓
BH11/ 5.9-6.0-5.9-6.0										✓
BH11/ 7.9-8.0-7.9-8.0										✓
BH13/ 2.8-2.9-2.8-2.9	✓	✓	✓	✓	✓	✓	✓	✓		
BH13/ 4.2-4.3-4.2-4.3										✓
BH13/ 7.0-7.1-7.0-7.1										✓

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enquiries@envirolabservices.com.au
www.envirolabservices.com.au

Sample Id	*vTRH(C6-C10)/BTEXN in Soil*	*svTRH (C10-C40) in Soil*	*PAHs in Soil*	*Organochlorine Pesticides in soil*	*Organophosphorus Pesticides*	*PCBs in Soil*	*Acid Extractable metals in soil*	*Asbestos ID - soils*	*Total Organic Carbon (Walkley Black)*	*On Hold*
BH12/ 0.5-0.6-0.5-0.6	✓	✓	✓	✓	✓	✓	✓	✓		
BH12/ 5.0-5.1-5.0-5.1										✓
BH11/ 6.0-6.1-6.0-6.1										✓
BH12/ 2.4-2.5-2.4-2.5										✓
BH12/ 6.7-6.8-6.7-6.8										✓

Envirolab Services Pty Ltd
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www.envirolab.com.au

CERTIFICATE OF ANALYSIS 172229

Client Details

Client	Consulting Earth Scientists Pty Ltd
Attention	E Millar, J Johnston
Address	Suite 3, Level 1, 55 Grandview Street, Pymble, NSW, 2073

Sample Details

Your Reference	**CES170303-SD**
Number of Samples	3 waters
Date samples received	27/07/2017
Date completed instructions received	27/07/2017

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.

Report Details

Date results requested by	03/08/2017
Date of Issue	02/08/2017

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Results Approved By
Dragana Tomas, Senior Chemist
Long Pham, Team Leader, Metals
Steven Luong, Chemist

Authorised By



David Springer, General Manager

vTRH(C6-C10)/BTEXN in Water				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date extracted	-	27/07/2017	27/07/2017	27/07/2017
Date analysed	-	27/07/2017	27/07/2017	27/07/2017
TRH C_6 - C_9	µg/L	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10
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	%	121	119	119
Surrogate toluene-d8	%	98	99	98
Surrogate 4-BFB	%	96	94	94

svTRH (C10-C40) in Water				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date extracted	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Surrogate o-Terphenyl	%	89	73	90

PAHs in Water				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date extracted	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
Naphthalene	µg/L	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1
Fluorene	µg/L	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1
Anthracene	µg/L	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1
Pyrene	µg/L	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1
Chrysene	µg/L	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	82	86

OCP in water				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date extracted	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
HCB	µg/L	<0.2	<0.2	<0.2
alpha-BHC	µg/L	<0.2	<0.2	<0.2
gamma-BHC	µg/L	<0.2	<0.2	<0.2
beta-BHC	µg/L	<0.2	<0.2	<0.2
Heptachlor	µg/L	<0.2	<0.2	<0.2
delta-BHC	µg/L	<0.2	<0.2	<0.2
Aldrin	µg/L	<0.2	<0.2	<0.2
Heptachlor Epoxide	µg/L	<0.2	<0.2	<0.2
gamma-Chlordane	µg/L	<0.2	<0.2	<0.2
alpha-Chlordane	µg/L	<0.2	<0.2	<0.2
Endosulfan I	µg/L	<0.2	<0.2	<0.2
pp-DDE	µg/L	<0.2	<0.2	<0.2
Dieldrin	µg/L	<0.2	<0.2	<0.2
Endrin	µg/L	<0.2	<0.2	<0.2
pp-DDD	µg/L	<0.2	<0.2	<0.2
Endosulfan II	µg/L	<0.2	<0.2	<0.2
pp-DDT	µg/L	<0.2	<0.2	<0.2
Endrin Aldehyde	µg/L	<0.2	<0.2	<0.2
Endosulfan Sulphate	µg/L	<0.2	<0.2	<0.2
Methoxychlor	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	90	98	100

OP Pesticides in water				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date extracted	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
Azinphos-methyl (Guthion)	µg/L	<0.2	<0.2	<0.2
Bromophos ethyl	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos	µg/L	<0.2	<0.2	<0.2
Chlorpyriphos-methyl	µg/L	<0.2	<0.2	<0.2
Diazinon	mg/L	<0.2	<0.2	<0.2
Dichlorovos	µg/L	<0.2	<0.2	<0.2
Dimethoate	µg/L	<0.2	<0.2	<0.2
Ethion	µg/L	<0.2	<0.2	<0.2
Fenitrothion	µg/L	<0.2	<0.2	<0.2
Malathion	µg/L	<0.2	<0.2	<0.2
Parathion	µg/L	<0.2	<0.2	<0.2
Ronnel	µg/L	<0.2	<0.2	<0.2
Surrogate TCMX	%	90	98	100

PCBs in Water				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date extracted	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
Aroclor 1016	µg/L	<2	<2	<2
Aroclor 1221	µg/L	<2	<2	<2
Aroclor 1232	µg/L	<2	<2	<2
Aroclor 1242	µg/L	<2	<2	<2
Aroclor 1248	µg/L	<2	<2	<2
Aroclor 1254	µg/L	<2	<2	<2
Aroclor 1260	µg/L	<2	<2	<2
Surrogate TCLMX	%	90	98	100

HM in water - dissolved				
Our Reference		172229-1	172229-2	172229-3
Your Reference	UNITS	170727-JJ-BH02	170727-JJ-BH03	170727-JJ-QAQC
Date Sampled		27/07/2017	27/07/2017	27/07/2017
Type of sample		water	water	water
Date prepared	-	28/07/2017	28/07/2017	28/07/2017
Date analysed	-	28/07/2017	28/07/2017	28/07/2017
Arsenic-Dissolved	µg/L	<1	<1	<1
Cadmium-Dissolved	µg/L	0.2	0.1	0.2
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	3	1	5
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	48	38	47
Zinc-Dissolved	µg/L	48	49	43

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-003	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-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-016	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.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			27/07/2017	2	27/07/2017	27/07/2017		27/07/2017	[NT]
Date analysed	-			27/07/2017	2	27/07/2017	27/07/2017		27/07/2017	[NT]
TRH C_6 - C_9	µg/L	10	Org-016	<10	2	<10	<10	0	93	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-016	<10	2	<10	<10	0	93	[NT]
Benzene	µg/L	1	Org-016	<1	2	<1	<1	0	99	[NT]
Toluene	µg/L	1	Org-016	<1	2	<1	<1	0	92	[NT]
Ethylbenzene	µg/L	1	Org-016	<1	2	<1	<1	0	86	[NT]
m+p-xylene	µg/L	2	Org-016	<2	2	<2	<2	0	94	[NT]
o-xylene	µg/L	1	Org-016	<1	2	1	1	0	93	[NT]
Naphthalene	µg/L	1	Org-013	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-016	109	2	119	117	2	111	[NT]
Surrogate toluene-d8	%		Org-016	100	2	99	100	1	100	[NT]
Surrogate 4-BFB	%		Org-016	91	2	94	100	6	101	[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	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Date analysed	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	117	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	117	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
Surrogate o-Terphenyl	%		Org-003	76	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: PAHs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Date analysed	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Naphthalene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Acenaphthylene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	74	[NT]
Phenanthrene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Anthracene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	70	[NT]
Pyrene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Benzo(a)anthracene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	73	[NT]
Benzo(b,j+k)fluoranthene	µg/L	2	Org-012	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	74	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	92	[NT]	[NT]	[NT]	[NT]	78	[NT]

QUALITY CONTROL: OCP in water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Date analysed	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
HCB	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-BHC	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	72	[NT]
gamma-BHC	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	93	[NT]
Heptachlor	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	83	[NT]
delta-BHC	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	84	[NT]
Heptachlor Epoxide	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	81	[NT]
gamma-Chlordane	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Dieldrin	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Endrin	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	78	[NT]
pp-DDD	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Endosulfan II	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	73	[NT]
Methoxychlor	µg/L	0.2	Org-005	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-005	84	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: OP Pesticides in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Date analysed	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Azinphos-methyl (Guthion)	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromophos ethyl	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyriphos	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	78	[NT]
Chlorpyriphos-methyl	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorovos	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	77	[NT]
Dimethoate	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	80	[NT]
Fenitrothion	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	82	[NT]
Malathion	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	80	[NT]
Parathion	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	95	[NT]
Ronnel	µg/L	0.2	Org-008	<0.2	[NT]	[NT]	[NT]	[NT]	82	[NT]
Surrogate TCMX	%		Org-008	84	[NT]	[NT]	[NT]	[NT]	84	[NT]

QUALITY CONTROL: PCBs in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Date analysed	-			28/07/2017	[NT]	[NT]	[NT]	[NT]	28/07/2017	[NT]
Aroclor 1016	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	79	[NT]
Aroclor 1260	µg/L	2	Org-006	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCLMX	%		Org-006	84	[NT]	[NT]	[NT]	[NT]	84	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	172229-2
Date prepared	-			28/07/2017	1	28/07/2017	28/07/2017		28/07/2017	28/07/2017
Date analysed	-			28/07/2017	1	28/07/2017	28/07/2017		28/07/2017	28/07/2017
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	116	110
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	0.2	0.2	0	115	100
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	113	98
Copper-Dissolved	µg/L	1	Metals-022	<1	1	3	3	0	110	88
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	103	90
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	93	90
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	48	47	2	116	94
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	48	47	2	115	96

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.

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: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-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.

CHAIN OF CUSTODY - Client

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Client: Consulting Earth Scientists	Client Project Name / Number / Site etc (ie report title): CES170303-SD
Contact Person: E. Millar / J. Johnston	
Project Mgr: E. Millar	PO No.:
Sampler: James Johnston	Envirolab Quote No. :
Address: Level 1 Suite 3, 55-65 Grandview Street, Pymble NSW	Date results required: Or choose: standard *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: (02) 8569 2200 Mob:	Report format: esdat / equis /
Email: erin.millar@consultingearth.com.au; Tristan.goodbody@consultingearth.com.au	Lab Comments:

Sample information					Tests Required	Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 6	Provide as much information about the sample as you can
1	170727-JJ-BH02	-	27/07/2017	Water	X	
2	170727-JJ-BH03	-	28/07/2017	Water	X	
3	170727-JJ-QAQC	-	29/07/2017	Water	X	

ENVIROLAB — Envirolab Services, 12 Ashley St, Chatswood NSW 2067, Ph: (02) 9910 6200

Job No: 172229

Date Received: 27/7/17

Time Received: 13:00

Received by: LT

Temp: Cool/Ambient 18.2

Cooling: Ice/Icepack

Security: Intact/Broken/None

Relinquished by (Company):	CES	Received by (Company):	ELS
Print Name:	James Johnston	Print Name:	LT
Date & Time	27.7.17 13:00	Date & Time:	27/7/17 13:00
Signature:		Signature:	

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: 18.2 (if applicable)
Transported by: Hand delivered / courier

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1717866**	Page	: 1 of 7
Client	: **CONSULTING EARTH SCIENTISTS**	Laboratory	: Environmental Division Sydney
Contact	: ERIN MILLAR	Contact	: Customer Services ES
Address	: Suite 3, Level 1 55-65 Grandview Street PYMBLE NSW, AUSTRALIA 2073	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 8569 2200	Telephone	: +61-2-8784 8555
Project	: CES170303-8D	Date Samples Received	: 19-Jul-2017 15:15
Order number	: ----	Date Analysis Commenced	: 20-Jul-2017
C-O-C number	: ----	Issue Date	: 26-Jul-2017 10:46
Sampler	: E. Millar		
Site	: ----		
Quote number	: SYBQ/521/16		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Shaun Spooner	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- **EA200: As only one sample container was submitted for multiple tests, sub sampling was conducted prior to Asbestos analysis. As this has the potential to understate detection, results should be scrutinised accordingly and NATA accreditation does not apply to analysis on this sample.**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	Q4	Q2	----	----	----
				Client sampling date / time	[18-Jul-2017]	[18-Jul-2017]	----	----	----
Compound	CAS Number	LOR	Unit		ES1717866-001	ES1717866-002	--------	--------	--------
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		17.5	17.7	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	No	----	----	----
Asbestos Type	1332-21-4	-	--		----	-	----	----	----
Sample weight (dry)	----	0.01	g		----	26.0	----	----	----
APPROVED IDENTIFIER:	----	-	--		----	S.SPOONER	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg		----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		----	16	----	----	----
Copper	7440-50-8	5	mg/kg		----	40	----	----	----
Lead	7439-92-1	5	mg/kg		----	18	----	----	----
Nickel	7440-02-0	2	mg/kg		----	22	----	----	----
Zinc	7440-66-6	5	mg/kg		----	84	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		----	<0.1	----	----	----
EP004: Organic Matter									
Total Organic Carbon	----	0.5	%		<0.5	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	Q4	Q2	----	----	----
				Client sampling date / time	[18-Jul-2017]	[18-Jul-2017]	----	----	----
Compound	CAS Number	LOR	Unit		ES1717866-001	ES1717866-002	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-29-3	0.05	mg/kg		----	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg		----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg		----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg		----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg		----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg		----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<0.05	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	Q4	Q2	----	----	----
				Client sampling date / time	[18-Jul-2017]	[18-Jul-2017]	----	----	----
Compound	CAS Number	LOR	Unit		ES1717866-001	ES1717866-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg		----	<0.5	----	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg		----	**0.6**	----	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg		----	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	Q4	Q2	----	----	----
				Client sampling date / time	[18-Jul-2017]	[18-Jul-2017]	----	----	----
Compound	CAS Number	LOR	Unit		ES1717866-001	ES1717866-002	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**110**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**128**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**102**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	**92.7**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	**81.8**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	**87.2**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	**99.9**	----	----	----
Anthracene-d10	1719-06-8	0.5	%		----	**103**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	**105**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**94.4**	**99.9**	----	----	----
Toluene-D8	2037-26-5	0.2	%		**81.9**	**92.2**	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		**86.3**	**90.1**	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	Q2 - [18-Jul-2017]	Pale grey clay soil.

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1717866**	Page	: 1 of 10
Client	: **CONSULTING EARTH SCIENTISTS**	Laboratory	: Environmental Division Sydney
Contact	: ERIN MILLAR	Contact	: Customer Services ES
Address	: Suite 3, Level 1 55-65 Grandview Street PYMBLE NSW, AUSTRALIA 2073	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 8569 2200	Telephone	: +61-2-8784 8555
Project	: CES170303-8D	Date Samples Received	: 19-Jul-2017
Order number	: ----	Date Analysis Commenced	: 20-Jul-2017
C-O-C number	: ----	Issue Date	: 26-Jul-2017
Sampler	: E. Millar		
Site	: ----		
Quote number	: SYBQ/521/16		
No. of samples received	: 2		
No. of samples analysed	: 2		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Shaun Spooner	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1012925)									
EB1714939-004	Anonymous	EA055: Moisture Content	----	1	%	8.3	7.9	5.34	No Limit
ES1717499-002	Anonymous	EA055: Moisture Content	----	1	%	2.2	2.1	0.00	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1013228)									
EB1714642-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	43	44	0.00	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	15	15	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	10	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	71	73	2.21	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	7	8	15.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	49	44	10.6	No Limit
ES1717619-190	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	16	7.18	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	30	19.9	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	38	36	5.58	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	21	27	25.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	107	110	3.13	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1013229)									
EB1714642-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1717619-190	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 1009603)									
ES1717697-006	Anonymous	EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1006771)									
ES1717654-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1006773)									
ES1717654-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1006773)									
ES1717654-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1006773) - continued									
ES1717654-001	Anonymous	EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1006772)									
ES1717654-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1006738)									
ES1717852-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EW1703131-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1006774)									
ES1717781-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1717654-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1010117)									
EB1714679-003	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1006738)									
ES1717852-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EW1703131-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1006774)									
ES1717781-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES1717654-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1010117)									
EB1714679-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 1006738)									
ES1717852-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EW1703131-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1013228)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	98.9	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	96.1	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	108	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	102	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	97.9	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	106	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	105	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1013229)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	81.5	70	105
EP004: Organic Matter (QCLot: 1009603)								
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	92.5	81	99
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1006771)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	88.0	62	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 1006773)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	69	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	65	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	67	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	68	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	65	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.3	67	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	69	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	62	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	63	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	66	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	64	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	102	66	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.5	67	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.4	67	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	69	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.3	69	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	100	56	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	62	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	96.6	66	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	64	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1006773) - continued								
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	91.0	54	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1006773)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	78.4	59	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	62	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	83.7	54	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	67	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	70	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	72	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.0	68	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	68	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.4	69	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	76	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	82.9	64	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	70	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.2	69	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	66	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	68	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	62	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.5	68	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	105	65	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	78.6	41	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1006772)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	108	72	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	111	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	107	72	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	119	75	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	113	77	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	118	73	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	117	74	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	106	69	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	108	75	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	71.4	68	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	81.9	74	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	101	70	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	78.4	61	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	76.4	62	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	85.7	63	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1006738)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1006774)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	94.8	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	112	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	109	71	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1010117)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	94.8	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	97.6	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	102	71	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1006738)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	90.4	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1006774)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	108	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	113	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	116	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1010117)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	104	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	104	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	104	63	131
EP080: BTEXN (QCLot: 1006738)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.3	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.0	67	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	94.4	66	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	98.8	68	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	63	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005T: Total Metals by ICP-AES (QCLot: 1013228)							
EB1714642-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	97.9	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.4	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1013228) - continued							
EB1714642-001	Anonymous	EG005T: Chromium	7440-47-3	50 mg/kg	101	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	92.9	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	95.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1013229)							
EB1714642-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	99.7	70	130
EP004: Organic Matter (QCLot: 1009603)							
ES1717697-006	Anonymous	EP004: Total Organic Carbon	----	2.66 %	105	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1006771)							
ES1717654-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	99.0	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1006773)							
ES1717654-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	97.6	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	101	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	96.6	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	90.2	70	130
		EP068: Endrin	72-20-8	2 mg/kg	93.9	70	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	98.7	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1006773)							
ES1717654-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	86.6	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	87.4	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	89.0	70	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	81.4	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	82.3	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1006772)							
ES1717654-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	102	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	97.1	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1006738)							
ES1717852-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	90.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1006774)							
ES1717654-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	84.7	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	117	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	120	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1010117)							
EB1714679-003	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	81.8	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	101	53	131

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1010117) - continued							
EB1714679-003	Anonymous	EP071: C29 - C36 Fraction	----	1714 mg/kg	116	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1006738)							
ES1717852-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	91.6	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1006774)							
ES1717654-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	93.7	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	105	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	110	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1010117)							
EB1714679-003	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	93.8	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	108	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	110	52	132
EP080: BTEXN (QCLot: 1006738)							
ES1717852-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	82.7	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	84.7	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.3	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.2	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	102	70	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1717866**	Page	: 1 of 6
Client	: **CONSULTING EARTH SCIENTISTS**	Laboratory	: Environmental Division Sydney
Contact	: ERIN MILLAR	Telephone	: +61-2-8784 8555
Project	: CES170303-8D	Date Samples Received	: 19-Jul-2017
Site	: ----	Issue Date	: 26-Jul-2017
Sampler	: E. Millar	No. of samples received	: 2
Order number	: ----	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
Q4, Q2	**18-Jul-2017**	**----**	----	----	**24-Jul-2017**	01-Aug-2017	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag - Subsampled by ALS (EA200)							
Q2	**18-Jul-2017**	**----**	----	----	**21-Jul-2017**	14-Jan-2018	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
Q2	**18-Jul-2017**	**24-Jul-2017**	14-Jan-2018	✓	**24-Jul-2017**	14-Jan-2018	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
Q2	**18-Jul-2017**	**24-Jul-2017**	15-Aug-2017	✓	**24-Jul-2017**	15-Aug-2017	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004)							
Q4	**18-Jul-2017**	**24-Jul-2017**	15-Aug-2017	✓	**24-Jul-2017**	15-Aug-2017	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**21-Jul-2017**	29-Aug-2017	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**21-Jul-2017**	29-Aug-2017	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**21-Jul-2017**	29-Aug-2017	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**21-Jul-2017**	29-Aug-2017	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) Q4, Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**20-Jul-2017**	01-Aug-2017	✓
Soil Glass Jar - Unpreserved (EP071) Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**21-Jul-2017**	29-Aug-2017	✓
Soil Glass Jar - Unpreserved (EP071) Q4	**18-Jul-2017**	**24-Jul-2017**	01-Aug-2017	✓	**24-Jul-2017**	02-Sep-2017	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) Q4, Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**20-Jul-2017**	01-Aug-2017	✓
Soil Glass Jar - Unpreserved (EP071) Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**21-Jul-2017**	29-Aug-2017	✓
Soil Glass Jar - Unpreserved (EP071) Q4	**18-Jul-2017**	**24-Jul-2017**	01-Aug-2017	✓	**24-Jul-2017**	02-Sep-2017	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) Q4, Q2	**18-Jul-2017**	**20-Jul-2017**	01-Aug-2017	✓	**20-Jul-2017**	01-Aug-2017	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	8	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	16	**18.75**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Organic Matter	EP004	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Organic Matter	EP004	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Organic Matter	EP004	1	8	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	16	**12.50**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1 - 1997. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (2013) Schedule B(3).
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1 - 1997. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (2013) Schedule B(3) (Method 105)

Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Subcon / Forward Lab / Split WO
Lab / Analysis: Asbestos - Newcastle
Organised By / Date: _____ 1/2
Relinquished By / Date: _____
Connote / Courier: _____
WO No: _____
Attach Rv PO / Ibr or Quote

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National phone number 1300 42 43 44

SYDNEY LAB - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

PERTH LAB - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

MELBOURNE LAB - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

BRISBANE OFFICE - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

ADELAIDE OFFICE - Envirolab Services
7a The Parade, Norwood, SA 5067
Ph 08 8369 0722/ 0406 350 706
adelaide@envirolab.com.au

Client:	**Client Project Name / Number / Site** *(ie report title)*: CES170303-BD
Contact Person: ERIN MILLAR	
Project Manager: TRISTAN GOODBODY	**PO No.:**
Sampler: E. MILLAR	**Envirolab Quote No. :**
Address: PYMBLE	**Date results required:** ____/____/____
	Or choose: standard / same day / 1 day / 2 day / 3 day
	Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Phone: **Mobile:** 0429 261 637	**Report format:** esdat / equis /
Email: erin.millar@coffeyglobal.com.au	**Lab Comments:**

Sample Information					Tests Required										Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date Sampled	Type of Sample	Combo 6A	TPH	BTEX	TOC	HOLD						Provide as much information about the sample as you can
	BH05-0.9-1.0		18/7	Soil					X						
	BH05-2.0-2.1				X										
	BH05-3.4-3.6								X						
	BH05-4.3-4.4								X						
	BH15-1.0-1.1				X										
	BH15-2.8-2.9								X						
	BH15-4.4-4.5								X						
	BH15-5.6-5.8					X	X	X							
	BH14-2.5-2.5				X				HOLD						
	Q3							X							
	Q4				Please forward to ALS for BTEX, TPH, TOC										
	Q1				X										
	Q2				Please forward to ALS for Combo 6A analytes.										

Environmental Division
Sydney
Work Order Reference
ES1717866

Telephone : +61-2-8784 9555

Relinquished by *(Company)*:	CES	ECS
Print Name:	ERIN MILLAR	James
Date & Time:	18/7/17	19/7 12-00
Signature:		

Received by *(Company)*:	ALS
Print Name:	
Date & Time:	19/7/17 1515 6.2°C
Signature:	

Lab use only:
Samples Received: Cool / Ambient *(circle one)*
Temperature Received at: 6.2°C *(if applicable)*
Transported by: Hand delivered / courier *(circle one)*

WHITE - LAB COPY / BLUE - CLIENT COPY / PINK - RETAIN IN BOOK

Appendix I
Field Data Sheets and Equipment Calibration Certificates

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:		**CES Project Code:**	**CES170303-SD**
Project: Potts Hill		**Location:**	**Potts Hill**
Sampler (s): J. Johnston	**Signature(s):** JJ	**Project Manager:**	**E. Millar**
BH ID: BH02		**Sample ID:** 170727-JJ-BH02	QAQC
Purging Date: 27.7.17		**Sampling Date:** 27.7.17	

Well Status

Well damaged:	YES/(NO)	Well locked:	YES/(NO)
Cement footing damaged:	YES/(NO)	Cap on PVC casing:	(YES)/NO
Internal obstructions in casing:	YES/(NO)	Well ID visible:	(YES)/NO
Standing water, vegetation around monument:	YES/(NO)	Monument damaged:	YES/(NO)
Water between PVC and protective casing:	YES/(NO)	Odours from groundwater	YES/(NO)
Comments: No tube present. New tube installed.	(YES)/NO		

Total well depth 11.79m

Standing Water Level (SWL):	9.202 (mBTOC) + 0.07m to GL	Weather Conditions	
Well volume:	5.08 (L)	Temperature:	12.6 °C
Volume of water purged:	~~5.08~~ (L)	(Clear) Partly Cloudy Overcast	
		(Calm) Slight breeze Moderate Breeze	
Purging equipment:	Pump / ~~micro-Purging~~ / Bailer / Foot Valve	Windy	
Sampling equipment:	(Pump) / Bailer / foot valve	(Fine) Showers Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (mS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
0	0.5	3.06	13.16	6.36	230	19.7	
2	1	2.56	13.15	6.35	227	19.7	
6	2	2.43	13.09	6.35	225	19.8	
8	3	2.36	13.00	6.34	223	19.9	Slightly turbid, brown, no odour.

Groundwater field parameters at the end of purging to be marked "Field Measurements".

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:		**CES Project Code:**	**CES170303-SD**
Project:	**Potts Hill**	**Location:**	**Potts Hill**
Sampler (s): J. Johnston	**Signature(s):** JJ	**Project Manager:**	**E. Millar**
BH ID: BH03		**Sample ID:** 170727-JJ-BH03
Purging Date:		**Sampling Date:** 27.7.17

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	YES/NO	Monument damaged:	YES/NO
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments: No tube present. New tube installed	YES/NO		

Total well depth = 10.02m

Standing Water Level (SWL):	8.206 (mBTOC) +0.08 to GL	Weather Conditions Temperature:	15.0°C
Well volume:	3.56 (L)		
Volume of water purged:	— (L)	Clear / Partly Cloudy / Overcast	
		Calm / Slight breeze / Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / Foot Valve	Windy	
Sampling equipment:	Pump / Bailer / foot valve	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO ($mg.L^{-1}$)	EC ($\mu S.cm^{-1}$)	pH -	Eh mV	Temp. (°C)	Comments
0	0.5	7.36	1071	6.12	169	20.3	
2	1.0	4.39	10.65	6.08	167	20.7	
4	1.5	3.79	10.66	6.08	168	21.0	
6	2.0	3.74	10.65	6.08	169	21.0	Turbid, brown no odour.

Groundwater field parameters at the end of purging to be marked "Field Measurements".

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RENTALS

Equipment Report – Solinst Model 122 Interface Meter

This Meter has been performance checked / calibrated* as follows:

Cleaned/Tested **Pass?** ☑ **Yes** ☐ **No**

☑ Probe

☑ Tape/Reel

☑ Performance Test & Battery Voltage Check (8.25 v) 8.0v minimum

Date: 24/07/2017 Checked by: MILENKO

Signed: JM

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	Operations check OK
☑	☐	☐	Plastic Box / Bag
☑	☐	☐	Spare 9V Battery Qty 1
☑	☐	☐	Probe Cleaning Brush
☐	☐	☐	Decon
☑	☐	☐	Instruction leaflet
☑	☐	☐	Tape Guide
☐	☐	☐	
Processors Signature/ Initials			JM 26/07/2017

Quote Reference	CS007222	Condition on return
Customer Ref		
Equipment ID	SOL122-42	
Equipment serial no.	250757	
Return Date	/ /	
Return Time		

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RENTALS

Equipment Certification Report – TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked and calibrated as follows:

Sensor	Concentration	Span 1	Span 2	Traceability Lot #	Pass?
pH	pH 7.00 / pH 4.00	4.00 pH	7.00 pH	302927/300765	☑
Conductivity	12.88mS/cm	0.00 mS/cm	12.88 mS/cm	QA1331	☑
TDS	36 ppk	0.0 ppk	36.0 ppk	305357	☑
Dissolved Oxygen	Sodium Sulphite / Air	0.00 ppm in Sodium Sulphite	8.89 ppm Saturation in Air	4347 (SS) 300125 (D2)	☑

Check only

Redox (ORP) *	Electrode operability test	240mV +/- 10%	235 mV	305342 (A) 305344 (B)	☑

* This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading.

☑ Battery Status 7.8 V (min 7.2V)
☑ Electrical Safety Tag attached (AS/NZS 3760)

☑ Temperature 20.9 °C
☑ Electrodes Cleaned and checked

Tag No: 001269

Valid to: 14/10/2017

Date: 24/07/2017

Signed: [signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $30 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Returned	Item
☑	☐	90FLMV Unit. Ops check/Battery status: 8.0V
☑	☐	pH sensor with wetting cap, 5m
☑	☐	Conductivity/TDS/Temperature K=10 sensor, 5m
☑	☐	Dissolved oxygen YSI5739 sensor with wetting cap, 5m
☑	☐	Redox (ORP) sensor with wetting cap, 5m
☑	☐	Power supply 240V to 12V DC 200mA
☑	☐	Instruction Manual
☑	☐	Quick Guide
☑	☐	Syringe with storage solution for pH and ORP sensors
☑	☐	Carry Case
☑	☐	Check to confirm electrical safety (tag must be valid)

Date: 26/07/2017

Signed: [signature]

TFS Reference	CS007222	Return Date:	/ /
Customer Reference		Return Time:	
Equipment ID	90FLMV WA6	Condition on return:	
Equipment Serial No.	S8939		

ThermoFisher SCIENTIFIC

Equipment Report – Micropurge Kit (MP15)

This system has been performance checked as follows:

Sample Pro Pump		
☑ Components Cleaned / checked	☑ Ops check	
☑ MP15 Controller	☑ Included in kit	☐ Not included in kit
☑ Components Cleaned / checked	☑ Ops check	
☑ Battery check – On/Off	☑ Flow response	

Date: 26/07/2017 Checked by: Jerry

Signed: J.

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	MP15 Control & Power Pack
☑	☐	☐	CO2 cylinder (installed in MP15 backpack)
☑	☐	☐	Gas regulator
☑	☐	☐	Tube cutter
☑	☐	☐	Quick Start Guide
☑	☐	☐	MP15 Users Guide + Pump operating instructions
☑	☐	☐	Sample Pro Stainless Steel Pump ID: QSP6P-10
☑	☐	☐	Bladder X2
☑	☐	☐	Flow cell ID: EFC500-16
☑	☐	☐	Stainless Steel Hanger Cable, Clamp & Bracket 50 m
☑	☐	☐	Spare CO2 Cylinders, quantity: 1
☑	☐	☐	Gas Cylinder CO2 - Size C ID: 01593600 & 02523178
☑	☐	☐	Maintenance kit (O rings, fittings, SS check ball, collect & screen if applicable)

Processors Signature/ Initials J.

EE Quote Reference	CS007222	Condition on return
Customer Ref		
Equipment ID	QMP15SG	
Equipment serial no.		
Return Date	/ /	
Return Time		

PID Calibration Certificate

Instrument PhoCheck Tiger
Serial No. T-105423

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
Pump	Operation	✓	
	Filter	✓	
	Flow	✓	
	Valves, Diaphragm	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	PID	✓	10.6 ev
Alarms	Beeper	✓	Low: 50ppm; High: 100ppm; TWA: N/A; STEL: N/A
	Settings	✓	
Software	Version	✓	
Data logger	Operation	✓	
Download	Operation	✓	
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		98ppm Isobutylene	NATA	SY137		98.0ppm

Calibrated by: Joanna Wong

Calibration date: 12/07/2017

Next calibration due: 11/08/2017

Appendix J
Proposed Development Plans

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AMENDMENTS

ISSUE	DESCRIPTION	APPROVED	DATE
P1	Preliminary Issue	JS	31/07/17
P2	Preliminary Issue for Consultant Co-ordination	JS	11/08/17
A	Issue for Development Application	JS	31/08/17
B	Incorporate Council comments		23/02/18



1 South Elevation- Building E & B



2 South Elevation- Building F & A

ABBREVIATIONS

BAL-01	Framed glass balustrade
BAL-03	1800mm high balcony dividing wall.
CD-02	Cladding- Terracotta Facade System
CD-03	
COL	Column Off-form concrete finish
CONC-01	Precast concrete, paint finish.
D-01	Solid Core Fire Door
D-02	Glazed Sliding Door
D-03	Glazed Sliding Door
PFC-01	PFC Slab edge detail. Micaceous iron oxide paint finish. Natural Grey
R-01	Render / Plaster
SCE-01	External Screen - Vertical Terracotta Baguette 50x50mm
SCE-02	External Screen - Vertical Terracotta Baguette 100x50mm
SCE-10	Perforated Metal Screen
STO	Storage
W-1	Window Type 1. - Full Height Glazed Window Aluminium Frame (size as shown on architectural drawings)
W-2	Window Type 2. - Full Height Shop Front Glazing Aluminium Frame (size as shown on architectural drawings)
W-4	Window Type 4. - Hinged Window (planter access) High level Vent Panel Aluminium Frame (1600w x1700h)
W-5	Window Type 5. - Hinged Window (planter access) High level Vent Panel Aluminium Frame (1600w x3100h)
W-6	Window Type 6. - Glazed Window Aluminium Frame with Spandrel Panel (900w x 2700h)
W-7	Window Type 7. - Glazed Window Aluminium Frame with Spandrel Panel (900w x 4100h)

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DRAWING
ELEVATIONS - 05

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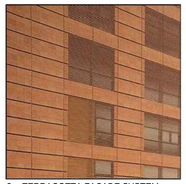
PROJECT No.	DRAWING No.	ISSUE
2016097	DA-304	B

PROJECT
Potts Hill Seniors Living

MATERIAL PALETTE

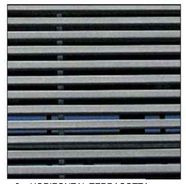

1. TERRACOTTA FINS


2. TERRACOTTA VERTICAL SCREENS


3. TERRACOTTA FACADE SYSTEM

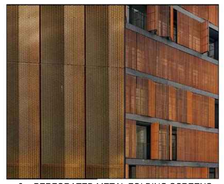

4. GLASS BALUSTRADE


5. EXPRESSED PFC TO SLAB EDGE MICACEOUS IORN OXIDE PAINT FINISH, NATURAL GREY


6. HORIZONTAL TERRACOTTA SUNSCREEN TO POOL FACADE


7. TEXTURED PRECAST CONCRETE


8. FIBRE CEMENT SOFFIT LINING PAINT FINISH: WHITE


9. PERFORATED METAL FOLDING SCREENS


10. HORIZONTAL ALUMININUM VENETIAN BLINDS

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E sydney@jacksonteece.com
Jackson Teece Chesterman Willis Pty Ltd
Trading as Jackson Teece
ABN 15 083 837 290
Nominated Architect Ian Brodie (4275)

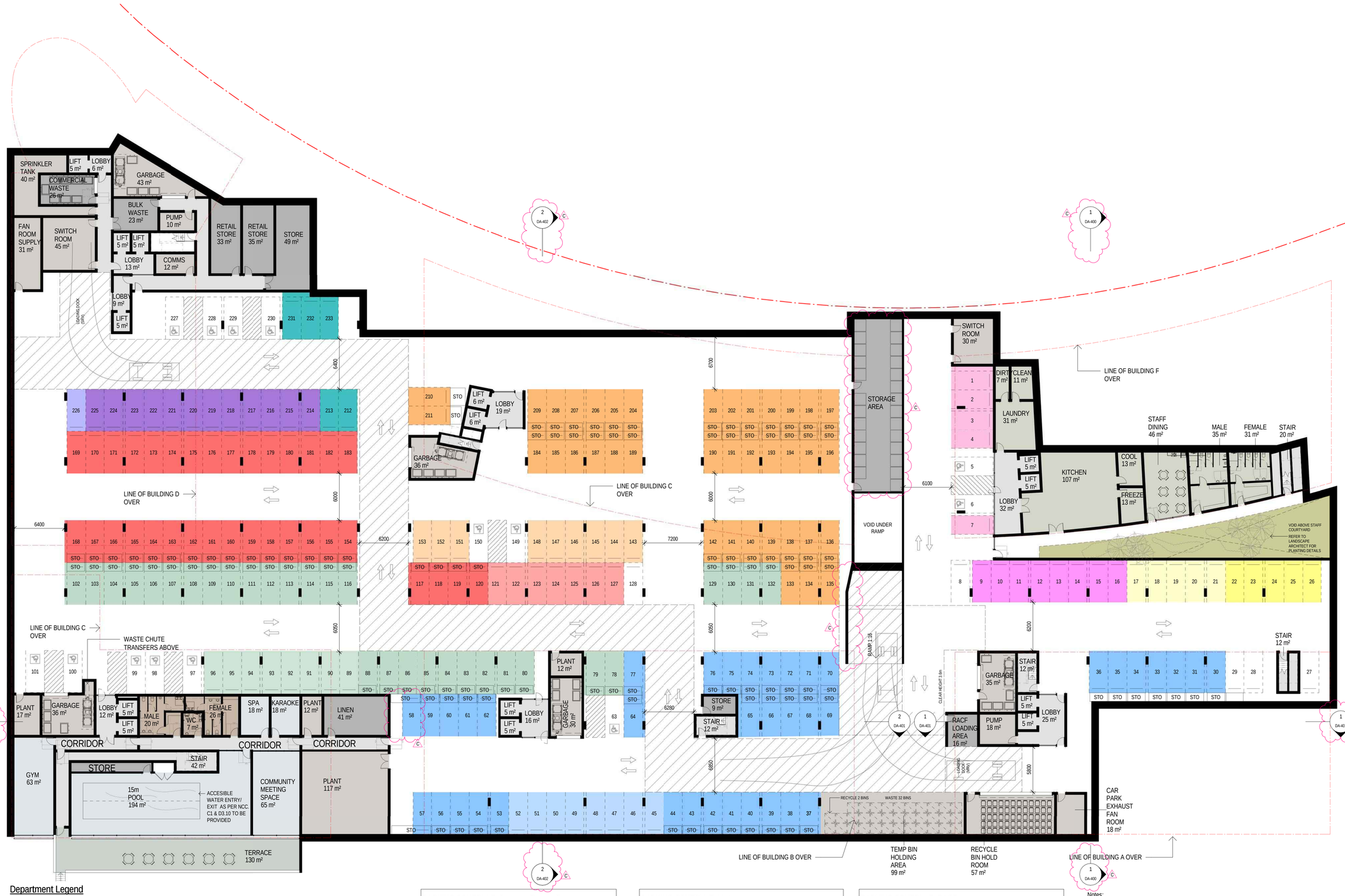
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P1	Preliminary Issue	JS	31/07/17
P2	Preliminary Issue for Consultant Co-ordination	JS	11/08/17
P3	Preliminary Issue for Consultant Co-ordination	CR	29/08/17
A	Issue for Development Application	JS	31/08/17
B	Revised Issue for Development Application	JS	6/09/17
C	Incorporate Council comments		23/02/18



Department Legend

- Amenities
- BOH
- Circulation
- Communal
- Communal Outdoor
- PARKING BUILDING A
- PARKING BUILDING A STAFF
- PARKING BUILDING B
- PARKING BUILDING B VISITOR
- PARKING BUILDING C
- PARKING BUILDING C VISITOR
- PARKING BUILDING D
- PARKING BUILDING D VISITOR
- PARKING BUILDING E
- PARKING BUILDING E VISITOR
- PARKING BUILDING F
- PARKING BUILDING F STAFF
- PARKING CAFE
- PARKING MEDICAL CENTRE
- PARKING RESTURANT
- PARKING RETAIL
- PARKING VISITOR
- Retail
- Service
- Store
- Calculating...

PARKING SCHEDULE_Standard Parking Bays		
Building_No	Comments	Count
A	Standard Car Parking Bay	5
B	Standard Car Parking Bay	39
C	Standard Car Parking Bay	30
D	Standard Car Parking Bay	34
E	Standard Car Parking Bay	38
F	Standard Car Parking Bay	8
Surplus	Standard Car Parking Bay	6

Total Number of Standard Parking Spaces: 160

PARKING SCHEDULE_Visitor		
Building_No	Comments	Count
V-B	Visitor	8
V-C	Visitor	8
V-D	Visitor	7
V-E	Visitor	8

Total Number of Visitor Parking Spaces 31

PARKING SCHEDULE_Commercial		
Building_No	Comments	Count
D	Medical	5
D	Restaurant	12
D	Retail	1

Total Number of Parking Spaces: 18

PARKING SCHEDULE_RACF		
Building_No	Comments	Count
A	RACF STAFF	5
F	RACF STAFF	5

Total Number of RACF Staff Parking Spaces: 10

PARKING SCHEDULE_Accessible		
Building_No	Comments	Count
	Accessible Car Parking Bay	14

Total Number of Accessible Parking Spaces 14

Notes:
- SEPP Seniors: Schedule 3.5 Requires 5% of the total number of car parking spaces must be designated to enable the width of the space to be increased to 3.8m
- Minimum required parking Accessible Car Spaces 233 (total required car parking spaces) x 0.05 = 11.65 spaces
- Standard Car Parking Bay 2.4m x 5.4m to AS 2890.1:2004
- Storage Note: 3.2m³ overbonnet storage provided
- Visitor = 1 space per 5 ILU's
- 2.5m minimum clear height to accessible parking bays. Provide bollard in accordance with AS2890.6-2009 Figure 2.2 & 2.3

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CHECKED BY: JS

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DRAWING
FLOOR PLAN - BASEMENT 1

DATE	SCALE @ A1	DRAWN
31/08/17	1 : 250	CR,AK,CW,CT

PROJECT No.	DRAWING No.	ISSUE
2016097	DA-099	C

PROJECT
Potts Hill Seniors Living

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Jackson Teece Chesterman Willis Pty Ltd
Trading as Jackson Teece
ABN 15 083 837 290
Nominated Architect Ian Brodie (4275)

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1 West Elevation-Building A

2 West Elevation-Building B & C

ABBREVIATIONS

BAL-01	Framed glass balustrade
BAL-03	1800mm high balcony dividing wall.
CD-02	Cladding- Terracotta Facade System
CD-03	
COL	Column Off-form concrete finish
CONC-01	Precast concrete, paint finish.
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DRAWING
ELEVATIONS - 06

DATE	SCALE @ A1	DRAWN
31/08/17	1 : 200	CR,AK,CW,CT

PROJECT No.	DRAWING No.	ISSUE
2016097	DA-305	B

PROJECT
Potts Hill Seniors Living

MATERIAL PALETTE

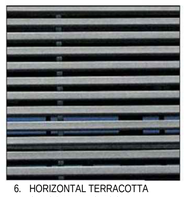

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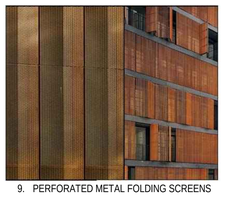

4. GLASS BALUSTRADE


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6. HORIZONTAL TERRACOTTA SUNSCREEN TO POOL FACADE


7. TEXTURED PRECAST CONCRETE


8. FIBRE CEMENT SOFFIT LINING PAINT FINISH: WHITE


9. PERFORATED METAL FOLDING SCREENS


10. HORIZONTAL ALUMININUM VENETIAN BLINDS

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