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Remediation Action Plan

Carlingford West Public School
and Cumberland High School Upgrades

59-73 Felton Road
and 183 Pennant Hills Road,
Carlingford

Prepared for
Taylor Construction Group Pty Ltd

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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

	Signature	Date
Author	Nathan	22 March 2024
Reviewer	p.p. Lisa Teng	22 March 2024

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Douglas Partners Pty Ltd
ABN 75 053 980 117
www.douglaspartners.com.au
96 Hermitage Road
West Ryde NSW 2114
PO Box 472
West Ryde NSW 1685
Phone (02) 9809 0666

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Executive Summary

This Remediation Action Plan (RAP) has been prepared for the Carlingford West Public School ('CWPS') and Cumberland High School ('CHS') school upgrades, herein referred to as the Carlingford West Public School and Cumberland High School Upgrades, addressed 59-73 Felton Road and 183 Pennant Hills Road, Carlingford, respectively. This RAP has been prepared in support of a State Significant Development Application (SSDA) and the Secretary's Environmental Assessment Requirements (SEARs) issued on 23 May 2022. This RAP must be read in conjunction with all appendices including the notes provided in Appendix A.

The overall 'school site' comprises both CWPS and CHS as shown outlined in red on drawing R.002.D.01, Appendix B. Whilst the Carlingford West Public School and Cumberland High School Upgrades for the purposes of this report refers to the state significant development site (herein referred to as 'the site') and is shown outlined in a blue dashed line on Drawing R.002.D.01, Appendix B.

The remediation objectives, devised in accordance with CRC CARE (2019a), are to:

- Address potentially unacceptable risks to relevant environmental values from contamination; and
- Render the site suitable, from a contamination perspective, for the proposed redevelopment and land use (continued public and secondary school).

The RAP provides details of the work that will be required at the site to meet the remediation objectives.

DP had previously undertaken a detailed site investigation (DSI) which identified areas which required further investigation as well as an area of environmental concern which requires remediation. Asbestos was confirmed in bonded fragments of ACM identified in fill at test locations 313, 314, 315, 319 and 320 and the fill was encountered from depths of between 0.2 m to 1.5 m bgl to depths of between 0.6 m to 2.0 m bgl. As a detailed asbestos assessment was not carried out as part of the DSI and several buildings precluded further investigation within these building footprints, data gap investigations have been proposed and reference to Section 8 should be made, as these investigations should be carried out prior to remediation works being undertaken in any given area.

Some of the data gaps have been addressed by two data gap assessments (DGA) (DP 2022a)[1] and (DP, 2023a) that has since been carried out as recommended by the DSI and is outlined in the RAP (see Section 6). However, it is noted that the full scope of the proposed data gap investigation recommended was not able to be completed due to access constraints. As such, some of the proposed investigations are still outstanding and are to be carried out with reference to Section 8 prior to remediation works being undertaken in these remaining areas.

The areas in which the DGA (DP 2022a) has been carried out, did not identify asbestos in the soil and the soils are consistent with the remainder of the site.

[1] Douglas Partners *Report on Data Gap Assessment, Carlingford West Public School and Cumberland High School , 59-73 Felton Road and 183 Pennant Hills Road, Carlingford* dated 8 February 2023 (DP reference: 86976.03.R.005.Rev1)(DP 2022a)

The currently identified remediation area is labelled as ‘Remediation Area 1’ which is impacted by asbestos (bonded) impacted fill and is shown shaded pink in Drawings R.002.D.02 and R.002.D.03, Appendix B. The drawings indicate the current estimated extent of possible asbestos contamination, which includes all test locations highlighted red where asbestos / likely asbestos impacted fill was identified. The area was nominated either up to the site boundary or to the next closest test location where PACM fragments were not observed. The depth of fill requiring remediation ranges from estimated depths of between 0.1 m to 1.5 m to depths of between 0.6 m and 2.0 m. The remediation extent may vary depending on the data gap investigation results.

The RAP outlines the preferred remediation strategy to remediate the various remediation areas identified and in summary includes, hotspot delineation / further investigation, excavation and on site containment of asbestos impacted fill (bonded and friable).

The additional investigation is to be assessed in accordance with the assessment criteria outlined in Section 11 and the remediation validated in accordance with the criteria in Section 12 and validation plan outlined in Section 12 and reported in a Validation Report as described in Section 17.

The RAP also outlines additional management and responsibilities relating to the remediation works including waste disposal, imported materials, site management plan, a contingency plan and an unexpected finds protocol.

Remediation Action Plan
Carlingford West Public School and Cumberland High School Upgrades
59-73 Felton Road and 183 Pennant Hills Road, Carlingford

1. Introduction

Douglas Partners Pty Ltd (DP) has prepared this remediation action plan (RAP) for the State Significant Development proposed for Carlingford West Public School (CWPS) and Cumberland High School (CHS) Upgrades at 59-73 Felton Road and 183 Pennant Hills Road, Carlingford. This revision of the RAP was commissioned by Roberts Co and was undertaken in accordance with DP's proposal 86976.03 dated 17 May 2022. This report must be read in conjunction with all appendices including the notes provided in Appendix A.

The overall 'school site' comprises both CWPS and CHS as shown outlined in red on drawing R.002.D.01, Appendix B. The Carlingford West Public School and Cumberland High School Upgrades for the purposes of this report refers to the state significant development (SSD) site (herein referred to as 'the site') and is shown outlined in a blue dashed line on Drawing R.002.D.01, Appendix B.

The following key guidelines were consulted in the preparation of this report:

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013);
- NSW EPA *Guidelines for Consultants Reporting on Contaminated Land* (NSW EPA, 2020); and
- CRC CARE *Remediation Action Plan: Development - Guideline on Establishing Remediation Objectives* (CRC CARE, 2019a).

The remediation objectives, devised in accordance with CRC CARE (2019a), are to:

- Address potentially unacceptable risks to relevant environmental values from contamination; and
- Render the site suitable, from a contamination perspective, for the proposed redevelopment and land use (continued public and secondary school).

The RAP provides details of the work that will be required at the site to meet the remediation objectives.

It is understood that the proposed development is a SSD which comprises the proposed development of new school buildings for both the public and high school, transport upgrades including a new carpark and kiss and ride upgrades on the CWPS site, and landscaping. The works also comprise associated civil works and landscape works including tree removal, tree planting and the construction of new footpaths and recreational areas (excluding game courts). DP notes that some other refurbishment works and other developments are being undertaken at the school and do not form part of the SSD. Extracted drawings showing the SSD development are included in Appendix B.

This RAP was required as part of the SSD application in relation to the Planning Secretary's Environmental Assessment Requirements (SEARS). The SEARS items that have been addressed herein, are shown in Table 1 below.

Table 1: Summary of response to SEARS

SEARS Item	Description	Addressed by DP
19. Contamination	Remediation Action Pan (RAP) where remediation is required. This must specify the proposed remediation strategy.	Addressed in this Report reference 86976.03.R.002
	Preliminary Long-term Environmental Management Plan where containment is proposed on-site.	Not considered required until remediation has been completed and the remediated area and containment has been validated. Required as part of the site validation in the RAP, but has been provided in report 86976.03.R.004.

Roberts Co has engaged NSW EPA accredited site auditor Leok Munnichs of EP Risk Management Pty Ltd to complete a site audit under the *Contaminated Land Management Act 1997* (NSW), which involves their review of this RAP and associated reports. It is noted that the RAP was previously reviewed and audited by NSW EPA accredited site auditor Tim Chambers of Phreatic Consulting for the early works for Taylors Construction Pty Ltd.

It should be noted that this RAP does not form a detailed specification for the proposed site remediation works, but rather represents a planning document which outlines the means by which site remediation can be achieved. Accordingly, the details outlined in the RAP should not be used or relied upon to estimate the final remediation areas, volumes/quantities of expected soil remediation, waste classification or waste volumes where applicable

The RAP was prepared based on the results and recommendations of the detailed site investigation (DSI) reported in DP (2022)[2].

This RAP was previously updated (Revision 3) to include the results of a data gap assessment (DGA) (DP 2022a)[3] that has since been carried out as recommended by the DSI and outlined in the RAP (see Section 6). It is noted that the full scope of the proposed data gap investigation recommended was not able to be completed due to access constraints and some of the proposed investigations are still outstanding. The RAP is to be updated at the completion of the remaining data gap investigations (Section 8) and confirmation of the proposed development layout in the identified remediation area(s), which will govern the capping layer design.

This revision of the RAP (Revision 4) has been amended to address auditor comments. This RAP also supersedes the RAP Addendum (86976.06.R.001.Rev0) which was prepared in the interim. All relevant sections of the RAP Addendum and response to auditor comments have since been incorporated into this revision of the RAP including:

- Review of additional data gap assessment; and
- Updated remediation extent and remediation strategy.

[2] Douglas Partners Pty Ltd, '*Report on Detailed Site Investigation, Carlingford West Public School, 59 – 73 Felton Road and 183 Pennant Hills Road, Carlingford, Prepared for Taylor Construction Pty Ltd,* DP ref: 86976.03.R.001.Rev0 dated 20 February 2024 previously dated 2 December 2022 (DP reference: 86976.03.R.001.Rev2)(DP 2022)

[3] Douglas Partners *Report on Data Gap Assessment, Carlingford West Public School and Cumberland High School , 59-73 Felton Road and 183 Pennant Hills Road, Carlingford* dated 8 February 2023 (DP reference: 86976.03.R.005.Rev1)(DP 2022a)

2. Proposed Development

The proposed development includes upgrades to CWPS and CHS, and is collectively referred to as the Carlingford West Public School and Cumberland High School Upgrades, however, for clarity, the proposed development for each school has been described separately. The proposed development has been split up into two stages (Stage 1 and Stage 2) which are shown outlined on the attached Drawing R.002.D.02 attached. Stage 1 of the project also includes multiple milestones (Milestones 1 to 5) which the RAP is to be implemented, although it is noted that the various milestones will be required to be handed over separate and in a staged approach and the validation of the various milestones may have to be carried out separately.

At the time of writing this report the following upgrades are proposed for CWPS:

- Proposed upgrades will cater for a total student capacity of 1,610 students;
- Construction of four new buildings (Buildings W, X, Y and Z) which range from one to three storeys and would be used for a range of uses including general learning spaces, library, amenities, staff rooms and combined canteen, out of school hours care (OSCH), gym and hall; and
- Transport upgrades including the construction of a new kiss and ride off Felton Road (West), a waste loading area, on site detection tank and staff carpark.

At the time of writing this report the following upgrades are proposed for CHS:

- Proposed upgrades will cater for a total student capacity of 2,040 students;
- Construction of three proposed buildings (Buildings X, Y and Z) which are to be between one to five storeys and would be used for a range of uses including a general and specialists learning spaces, library, administration, staff and student amenities, and combined lecture theatre, movement space, canteen, stage and gym/hall; and
- Transport upgrades to include the construction of a new one-way bus link road and waste loading area from Dunmore Avenue to Pennant Hills Road.

Figure 1. Works Outside of SSDA Approval (Source: Woods Bagot)

The proposed development for the site also includes the associated civil works and landscape works including tree removal, tree planting, new play areas and public domain upgrades. Selected architectural plans showing the proposed developments at CWPS and CHS are included in Appendix B. DP notes that ancillary works are also proposed to be undertaken across the site, however, these works are not included in the SSDA. The ancillary works include the demolition of existing buildings, refurbishment of some existing buildings, relocation/decommission of temporary demountable buildings, construction of new game courts, set up of the temporary school and construction of a new staff carpark and kiss and ride driveway at CHS with a one-way bus link connecting Dunmore Avenue and Blenheim Road, see **Figure 1** showing the relevant development areas.

3. Scope of Work

The objectives of the RAP are as follows:

- Set remediation goals that will allow the site to be made suitable for the proposed continued use as public (primary and secondary) school, and will not pose an unacceptable risk to human health or the environment;
- Document the remediation options that may be implemented to reduce identified contamination exposure risks to acceptable levels for the proposed use as public school;
- Provide information which will be required to detail the environmental safeguards necessary to complete the remediation in an environmentally acceptable manner;
- Identify the general legislative requirements of the relevant authorities for the remediation works; and
- Comply with the relevant planning instruments.

The scope of works to achieve the objective is as follows:

- Summarise the findings of previous investigations used to inform the status of contamination and contamination exposure risk at the site;
- Present a conceptual site model (CSM) to list potential and likely contamination source, pathway and receptor linkages to address potentially unacceptable risks to relevant environmental values from contamination;
- Define the anticipated extent of remediation;
- Assess, select and justify a preferred approach to remediation to render the site suitable for its proposed use, and which will minimise potentially unacceptable risk to human health and / or the environment and which includes the consideration of the principles of ecologically sustainable development;
- Establish the remediation acceptance criteria (RAC) to be adopted for validation of remediation;
- Identify how successful implementation of the RAP will be validated;
- Outline waste classification, handling and tracking requirements;
- Outline environmental safeguards required to complete the remediation works;
- Include contingency plans and an unexpected finds protocol;
- Identify the need for, and nature of, any long-term management and / or monitoring following the completion of remediation and, if required, provide an outline of an environmental management plan; and
- Highlight the requirement for the works to be undertaken in accordance with an asbestos management plan (AMP), construction environmental management plan (CEMP) and a Work Health and Safety (WHS) Plan to be prepared for the remediation works.

4. Site Description

School Site Address	59-73 Felton Road and 183 Pennant Hills Road, Carlingford
Legal Description	Lot 1, 2, 3, 4 & 5 in DP235625
Site Owner and Occupier	Department of Education
Approximate Site Area	7 hectares
Zoning	Zone R2 Low Density Residential
Local Council Area	City of Parramatta
Current Use	Carlingford West Public School (part thereof) Cumberland High School (part thereof)
Surrounding Uses (to school site)	North - Low density residential and Hunts Creek East - Low and medium density residential South - Pennant Hills Road and low to high residential West - Low density residential and Kingsdene Oval

The school site (red) and site (blue) boundaries are shown on Figure 2.

Figure 2: School Site and Site Boundaries

5. Environmental Setting

Regional Topography	The general topography of the area in which the site sits comprises of winding, undulating ridgelines and valleys. With the topography generally rising towards the east whilst falling away to the north, west and south.
Site Topography	Ground surface levels within the site generally slope down from the south-eastern corner of the site (RL 88) towards the middle of the site (RL 82), then slop up towards the eastern side of the site (RL 90 at the north-eastern corner, rising to RL 95 towards Felton Road), with ground levels rising up gently and sometimes moderately.
Soil Landscape	Generally underlain by the erosional Gymea soil landscape, with Glenorie soil landscape at where Cumberland High School buildings sited, near the boundary with the residual Lucas Heights soil landscape at its northern boundary (based on the 1:100 000 Soil Landscape Series mapping).
Geology	On the boundary between Hawkesbury Sandstone and Ashfield Shale, with Hawkesbury Sandstone mapped at the western and Ashfield Shale at the eastern and southern side of the site (based on the 1:100 000 Geological Series mapping). Hawkesbury Sandstone typically comprises medium to coarse grained sandstone, with some laminate, whereas Ashfield Shale typically comprises black to dark grey shale and laminate.
Acid Sulfate Soils	A review of the Acid Sulfate Soils risk map indicates that the site is located in an area with a low probability for the occurrence of ASS.
Surface Water	Review of data provided by the NSW Department of Lands indicates that the nearest surface water receptor is Hunts Creek which is situated about 650 m north of the site.
Groundwater	Review of the site topography and regional geography suggests that groundwater flows north-west towards the creek. Reference to the NSW Water digital bore information indicates that there are no registered groundwater wells in close proximity to the site. Groundwater has not been previously encountered during site investigations, although water seepage has been observed in previous test locations and considered perched water between the fill and natural soils interface and the soil and rock interface.
Salinity	Near the boundary between very low and moderate salinity potential (based on the Salinity Potential in Western Sydney Mapping of 2002).

6. Previous Reports

6.1 Detailed Site Investigation (DP 2022)

Previous preliminary site investigation reports prepared for the site, and considered relevant to this RAP, are listed and summarised in the Detailed Site Investigation report (DP 2022)[4]. A summary of the relevant information is included below.

DP was engaged by Taylor to complete the DSI for the site to characterise the nature and extent of contamination at the site, assess the suitability of the site for the proposed land use and, if deemed necessary, make recommendations for further targeted investigations and / or remediation to render the site suitable for the proposed land use. Relevant information has been summarised below.

The DSI comprised a review of the previous preliminary site investigations ('PSI') (DP 2020a[5] for CWPS and DP 2020b[6] for CHS) and geotechnical investigations, a site walkover, intrusive soil investigation comprising the drilling of 81 boreholes (101-110, 201-210, 301-313, 318, 501-505, 508, 601-612, 616, 619 -623, 701-706 and 800-817), excavation of 32 test pits (TP314-317, 319-326, 401-409, 411-417 and EW-TP-1 to EW-TP-4) and the collection of one surface sample (SS1). The borehole and test pit locations are shown on Drawings R.002.D.02 and R.002.D.03 in Appendix B.

The logs for the boreholes and test pits within the site, except for the western part of the site near Felton Road (west) (that is, from the western half of the mounded oval (referred to as the CWPS Green) towards the western site boundary) recorded the following general sub-surface profile:

- Fill / Topsoil: dark brown silty sand / silty sandy clay / gravelly clay in all test pits to depths of between 0.2 m and 0.3 m bgl; underlain by
- Fill: dark brown / brown / orange-brown / yellow-brown and grey gravelly silt / gravelly clay / sandy gravel / silty sand with inclusions variably across the test locations including wood, gravel, clinker, brick, terracotta fragments and concrete underlying the above to depths of 0.2 m bgl and 1.5 m bgl respectively; underlain by
- Silty Clay / Silty Sand / Sandy Clay: Red-brown, orange-brown mottled yellow-brown / grey / pale grey and orange-brown / grey mottled orange-red / yellow-brown / red-brown with variable inclusions including siltstone, ironstone and sandstone gravel, underlying the above to depths of between 0.8 m bgl to 1.7 m bgl (depth of investigation); underlain by
- Siltstone / Sandstone: Pale grey and yellow brown siltstone overlying sandstone and grey mottled brown / yellow-brown and grey / orange-brown and grey / dark grey-brown siltstone in borehole BH705 and pale orange-grey and dark grey interlaminated siltstone and sandstone in BH706 (see geotechnical reports for additional detail).

[4] Douglas Partners *Report on Detailed Site Investigation (Contamination), Carlingford West Public School and Cumberland High School Upgrades, 59-73 Felton Road and 183 Pennant Hills Road, Carlingford* dated 20 February 2024 previously dated 2 December 2022 (DP reference: 86976.03.R.001.Rev2)(DP 2022)

[5] Douglas Partners *Report on Preliminary Site (Contamination) Investigation, Carlingford West Public School, 53-73 Felton Road, Carlingford* dated 6 December 2019 (DP reference: 86976.00.R.001.Rev0)(DP 2020a)

[6] Douglas Partners *Report on Preliminary Site (Contamination) Investigation, Cumberland High School, 183 Pennant Hills Road, Carlingford* dated 6 December 2019 (DP reference: 86976.00.R.002.Rev0)(DP 2020b)

The subsurface conditions encountered in the boreholes and test pits within the western part of the site near Felton Road (borehole 313 and test pits 314, 315, 319 and 320) were more variable and generally consisted of deeper fill with the following profile:

- Fill / Topsoil: Dark brown silty sandy clay / gravelly clay / silty sand to depths of between 0.1 m to 0.4 m; underlain by
- Fill / Gravelly clay / sandy clay / silty clay: Brown and grey to depths of between 0.2 m to 1.6 m; underlain by
- Fill / Gravelly clay / silty clay: dark brown mottled orange-brown, with igneous, sandstone and siltstone gravel, with anthropogenic inclusions such as glass fragments, brick, ceramic fragments, metal pipe, porcelain fragments, fragments of fibre cement material, concrete, plastic fragments, terracotta pipe and timber pieces to depths of between 0.6 m bgl to 2.9 m bgl; underlain by
- Fill / Silty clay / sandy clay: dark brown or orange-brown with roots to depths of between 1.0 m bgl to 2.9 m bgl; underlain by
- Silty clay / gravelly clay / siltstone: grey mottled red-brown / orange-brown with ironstone gravel to depths of between 1.4 m bgl to 3.0 m bgl (depth of investigation).

Asphalt hardstand, concrete slabs and associated road base were also encountered in some test locations generally around the existing building areas and were relatively shallow to depths of 0.15 m to 0.4 m.

DP notes that BH508 was drilled through a synthetic grass cover which was underlain by a concrete slab to a depth of 0.15 m. Concrete slabs were also observed at the surface of bores BH702 and BH703 to depths of between 0.09 m to 0.11 m which were underlain by gravelly clay / gravel fill to depths of between 0.3 m and 1.2 m. Water seepage was also observed in BH702 at 0.7 m and at this depth is an indicator of perched water at the base of the fill on the residual soil.

Field observations which vary from the above and are relevant to contamination are summarised below:

- Deeper fill was also encountered in test pits 323 and 324 to depths of between 1.8 m to 2.6 m and anthropogenic inclusions included timber, asphaltic concrete gravel / cobbles, concrete, sandstone gravel, glass and terracotta pipe fragments. It is noted that test pit 323 collapsed due to sidewall instability at a depth of 2.6 m bgl in fill and the depth of natural soils was not determined at this test location. Additional boreholes drilled as step outs around these locations (BH 800 to 817) did not encounter any potential asbestos containing material (PACM) fragments and the profiles were consistent with fill encountered in test pits 323 and 324;
- Fill around test pits TP403 and TP416, described as brown mottled grey brown with siltstone and sandstone gravel, recorded traces of ash / charcoal from beneath the topsoil (generally from 0.2 m depth) to depths of 0.8 m to 0.9 m;
- Fragments of bonded asbestos containing material (ACM) were identified at test locations 313 (‘A9’ depth 0.3 - 0.4 m), 314 (‘A1’ depth 0.9 - 1.0 m), 315 (‘A5’ depth 0.5 - 0.6 m) and 320 (‘A8’ depth 0.8 - 0.9 m). Soil from these locations w*as also tested and no friable asbestos or asbestos fines were identified by the laboratory in the samples analysed. Subsequent laboratory testing confirmed the presence of asbestos in the fragments. Similar fragments were observed in fill in test location 319 from depths of 1.5 m to 2 m, and are considered ACM although the fragments were not analysed at the laboratory; and

- Slight staining of fill materials was observed at 705 and a slight hydrocarbon odour was noted and there were no other apparent records of visual or olfactory evidence (e.g., staining, odours or free phase product) to suggest the presence of contamination within the soils or groundwater observed in the investigation.

The PID screening indicated that the sub-surface conditions were generally absent of volatile organic compounds (VOC) with all recorded values of less than 1 ppm.

Laboratory testing indicated that all contaminant concentrations were within the adopted site assessment criteria (SAC), with the exception of benzo(a)pyrene [B(a)P], copper and nickel identified at a number of locations in fill soils up to 0.7 m. However, the 95% UCL of the mean concentrations for these analytes were within the SAC, and therefore the individual SAC exceedances (all not at hot spot levels) were not considered to be of environmental concern. Results from the previous investigation are included in Appendix C.

In summary, all contaminant concentrations were within the adopted SAC, either individually or statistically, with the exception of asbestos confirmed in bonded fragments of ACM identified in fill at test locations 313, 314, 315, 319 and 320. The fill was encountered from depths of between 0.2 m to 1.5 m bgl to depths of between 0.6 m to 2.0 m bgl.

Furthermore, given the high likelihood for the presence of asbestos in school buildings, it was considered that there is still a risk that asbestos may be present within the near surface soil and in fill in other parts of the site. The presence of existing buildings / roads / dense vegetation within the site, also presented data gaps in the investigation as these areas were inaccessible at the time of the investigations.

Based on the above, DP considered that the site can be made suitable for the proposed Carlingford West Public School and Cumberland High School Upgrades and proposed continued land use, subject to the following recommendations:

- Undertake a walkover to identify any suspected ACM within any building demolition footprints and nearby surface by a qualified occupational hygienist or suitably qualified environmental consultant;
- Detailed asbestos investigation comprising boreholes or test pits (sampling, asbestos sieving and testing) around the existing finds of asbestos at test locations 313, 314, 315, 319 and 320 to further characterise the extent and nature of the asbestos;
- Additional investigations (sampling and testing) within building / road footprints after demolition has been completed (See Drawings R.002.D.02 and R.002.D.03 in Appendix B for proposed test locations shown in yellow);
- The development of appropriate contaminant management plans, remediation action plan and procedures (as relevant); and
- Appropriate management of any unexpected contamination finds during excavation / development.

It was recommended that a RAP be prepared detailing the works required to render the site suitable for the proposed development including a protocol for any additional finds of asbestos. The RAP should also include an Unexpected Finds Protocol outlining the procedures that would be undertaken in the event unexpected contamination is encountered during excavation works.

DP noted that the presence of asbestos in fill and / or surface soils (if found through the additional investigations outlined above) may present constraints on the proposed development e.g., aesthetics, acceptability and practicality for the developer / user, asbestos licenced contractor requirements during development and disposal. The report recommended that these be discussed with the appropriate stakeholders and consultants.

Preliminary *in situ* waste classifications were also provided in DP (2022) for the fill as general solid waste (non putrescible) and natural soils are preliminarily classified as virgin excavated natural material (VENM). This was a general preliminary classification that excluded any soils impacted with asbestos. The report noted that waste classifications must be updated on the results of the additional investigations recommended above, in particular with regard to any asbestos finds.

Although the demolition and refurbishment of existing building are beyond the scope of the SSDA, DP recommended that a hazardous building materials survey be undertaken prior to the refurbishments / demolition of any of the existing buildings / structures to ensure that all asbestos is appropriately removed from the site. The quality of demolition works could have an impact on the demolition building footprints which are within the SSDA site.

6.2 Data Gap Assessment (DP 2022a)

An additional data gap assessment (DGA) (DP 2022a)[7] was also carried out in 2022 as part of the recommendations of the DSI and RAP and is summarised herein. It is noted that the full scope of the DGA recommended was not able to be completed due to access constraints and some of the proposed investigations are still outstanding. The DGA was carried out in November 2022 by Environmental Engineers from DP and included the excavation of 11 test pits approximately 0.5 m into natural soils or prior refusal to depths of between 0.4 m to 1.6 m bgl.

Using a judgemental sampling approach, a total of 11 test locations were placed across accessible areas of the investigated area, with at least two test locations from each building footprint (CHS Building B, CWPS Building C, F, J and beneath the removed demountable buildings).
The logs recorded the following general sub-surface profile:

- Fill: Brown / orange / red / pale grey and dark grey silty clay / gravelly sand / sand / silty sand / clayey silt with variable inclusions across the test locations comprising igneous, sandstone, and shale gravel, sand, concrete, metal, tile, brick, ceramic, timber, and rootlets to depths of between 0.1m bgl and 1.5 m bgl; underlain by
- Shale / Clay / Silty Clay / Shale and Clay mixture: play grey / orange-brown / orange / red / orange red and yellow with variable inclusions comprised ironstone and shale gravel and rootlets, underlying the above to depths of between 0.4 m bgl to 1.6 m bgl (depth of investigation).

The PID screening indicated that the sub-surface conditions were generally absent of VOC with all recorded values of less than 15 ppm. No free groundwater was observed during excavation of test pits. It should be noted that groundwater levels are affected by climatic conditions and soil permeability and will therefore vary spatially, and with time.

[7] Douglas Partners *Report on Data Gap Assessment, Carlingford West Public School and Cumberland High School , 59-73 Felton Road and 183 Pennant Hills Road, Carlingford* dated 8 February 2023 (DP reference: 86976.03.R.005.Rev1)(DP 2022a)

At least one soil sample from each borehole was selected for analysis, with more samples selected where deeper fill was encountered. Samples were analysed for the primary CoPC including metals, TPH, BTEX, PAH, OCP, OPP, PCB, phenols and asbestos.

The SAC adopted were the same as the SAC previously adopted for the DSI and the analytical results for BTEX, Phenol, OPP, PCB tested in all samples from the current DGA test locations were below the Practical Quantitation Limit (PQL) and the adopted SAC. The analytical results for metals, TRH, PAH and OCP tested in all samples were detected below the adopted SAC. Furthermore, three fragments of potential PACM fragments were analysed at the laboratory and reported to not contain asbestos.

The fill soils in the areas investigated as part of the DGA (DP 2022a) are preliminary classified as GSW (non-putrescible) with reference to NSW EPA (2014), whilst the natural soils are preliminary classified as VENM. Similarly, based on the available contamination testing results, natural materials were preliminarily classified as VENM, although further assessment by visual and analytical means would be required for a final waste classification. *DP notes that these results do not preclude any of the previous finds of asbestos and associated waste classification for the other areas of the site identified / classified under the DSI (DP 2022) and those recommendations are still valid.*

Based on the results, the additional test locations investigated as part of the DGA did not require remediation and recommended that the RAP (this report) should be updated to include the results of the DGA, noting that some data gap investigation locations are still outstanding, and remediation is still required for the previously identified Remediation Area 1.

The DGA recommended that the remaining data gap investigation areas which were inaccessible at the time of conducting the DGA still need to be investigated. This includes Remediation Area 1, and the areas which at the time of the DGA were not accessible. The proposed data gap test locations that still need to be completed are shown on the Drawings R.002.D.02 and R.002.D.03 by light blue square icons.

6.3 Data Gap (2023)

An additional data gap assessment (DGA 2) (DP, 2023a) for Stage 1 of the project was carried as part of the recommendations of the RAP (DP, 2023b) and is summarised herein. It is noted that the remaining scope of the DGA 2 recommended by the RAP was not able to be completed, namely for the Stage 1 Milestone 2 and Stage 2 areas of the site.

The DGA 2 was carried out in November and December 2023 by Environmental Engineers from DP and included the excavation / drilling of 21 test locations including test pits (TP1001, TP1002 and TP1005 to TP1021) and wide diameter boreholes (BH1003, BH1004 and part of TP1008) using a client provided 5 tonne excavator fitted with a 600 mm toothed bucket and / or a 300 mm auger to depths of between 0.8 m to 3.3 m (limit of machine or 0.5 m into natural). Using a judgemental sampling approach, the 21 test locations were placed with approximately 2 test locations within each building footprint and one to test locations for every two or three clusters of demountable buildings. And additional 12 test locations were located within the northern Remediation Area with test locations selected as step outs to the three previous test locations (TP315, TP319 and TP320) where asbestos was previously identified and to provide additional coverage of the remediation area. The testing included sieving for asbestos and soil sampling for chemical analysis.

The following general sub-surface profile was encountered:

- Fill / Sand: brown with trace igneous gravel to depths of between 0.1 m bgl and 0.3 m bgl; underlain by
- Fill / Silty Clay / Gravelly Clay: dark brown / pale grey / brown and orange-brown with gravel and variable inclusions of trace plastic, pvc, geofabric, glass, timber, brick, wood and rootlets to depths of between 0.7 m bgl to 0.9 m bgl; underlain by
- Fill/Silty Clay: dark brown with shale gravel to depths of between 0.45 m bgl to 1.30 m bgl; underlain by
- Shale / Clay / Shale and Clay mixture: pale grey / orange-brown / red-brown and yellow-brown with variable inclusions comprised ironstone and shale gravel and rootlets, underlying the above to depths of between 0.3 m bgl to 3.0 m bgl (depth of investigation).

Asbestos was observed within three test locations (TP1002, TP1008 and TP1009) and fill encountered in those test location was similar to fill observed in test pits TP1001, TP1003 to TP1005 and was generally described as follows:

- Fill: Brown / orange-brown / dark brown, silty clay with variable inclusions across the test locations comprising igneous, sandstone, and shale gravel, sand, concrete, metal, tile, brick, ceramic, timber, ACM and rootlets to depths of between 0.7 m bgl and 2.0 m bgl; underlain by
- Fill / Clay: dark brown, dark grey and black with sandstone and shale gravel, wood and asphalt to depths of between 2.5 m bgl and 2.7 m bgl; underlain by
- Shale / Clay / Shale and Clay mixture: orange-brown, grey and brown with variable inclusions comprised ironstone and shale gravel and rootlets, underlying the above to depths of between 0.3 m bgl to 3.0 m bgl (depth of investigation).

The analytical results for TRH, BTEX, Phenol, OCP, OPP, PCB tested in all samples from the DGA test locations were below the laboratory Practical Quantitation Limit (PQL) and the adopted SAC, while the analytical results from all samples tested for metals and PAH reported detections below the adopted SAC.
The field and analytical results for asbestos in all samples were below the SAC except for the following:

- Friable asbestos as FA/AF (including chrysotile, amosite and crocidolite asbestos) detected by laboratory analysis in sample TP1008/0.4-0.5 (0.0643%w/w) which exceeded the SAC of 0.001 % w/w;
- Field sieving results indicated that the quantity of asbestos detected in TP1008/0.9-1.6 (0.019% w/w) exceeded the SAC of 0.01%w/w;
    - It is noted that the fragment of asbestos identified during the field sieving (TP1008/0.9-1.0) of the bulk sample TP1008/0.9-1.6 was observed to be in a poor condition and therefore classified as friable. Furthermore, friable asbestos was detected by the laboratory in the same fill layer in a soil sample at 0.4 – 0.5 m depth. As such, it is assumed that the asbestos at this sample is also friable;
    - It is also noted that although the asbestos was detected at a depth greater than 0.5 m in the ground, the layer of fill that is associated with the asbestos was observed to be present at from the surface to a depth of 1.60 m. Friable asbestos was detected in the sample from a depth of 0.4 m – 0.5 m and as such, DP have assumed that this entre layer of fill is likely to contain asbestos and will require remediation and or further management.

The following detections of asbestos below the SAC are also noted:

- Friable asbestos as FA/AF (including chrysotile and amosite asbestos) was detected by the laboratory in samples TP1001/0.0-0.2 (<0.001% w/w) and TP1001/0.3-0.4m (<0.001% w/w);
- Field sieving results detected asbestos in samples TP1009/0-1.0 (<0.01% w/w);
- A fragment of ACM was observed in test pits TP1002, but was not recovered for analysis;
- A fragment of ACM > 7mm was detected by the laboratory in sample TP1011/0.6-0.7m. As this was detected in the 500 ml samples, a quantification calculation is not able to be carried out;
- Fibrous cement fragments were analysed from two locations TP1008/0.9-1.0m and TP1009/0-0.1m and were confirmed by the laboratory to contain asbestos in the form of chrysotile and amosite asbestos in both samples.

Fill at the test locations were preliminarily classified as general solid waste (non putrescible) and where within the remediation areas, the fill was classified as special waste asbestos general solid waste to the depth where asbestos was encountered subject to further validation.

Based on the results of the DGA 2, the following additional works were recommended:

- *Update the current RAP / prepare a RAP Addendum to include the results of this DGA investigation including updating the boundary of the Remediation Areas to show the Stage 1 remediation areas including differentiating between the bonded and friable asbestos areas and to show the Stage 2 remediation area separately;*
- *Review any reports relating to the source of the stockpiled material at CHS and if records including analytical testing are not provided an assessment of the stockpile prior to use and / or disposal is required; and*
- *Carry out the data gap assessment for the Stage 2 areas prior to any works or remediation is carried out in those areas. The proposed data gap test locations for Stage 2 are shown on Drawings R.001.D.04 and R.001.D.05.*

7. Conceptual Site Model

An initial CSM was developed and presented in DP (2022) based on the available historic information and observations made during the site walkover inspection and documented in the preliminary contamination investigation report.

Table 2 presents an updated CSM in consideration of the results of the previous investigations carried out at the site. The CSM identifies contaminants of potential concern (CoPC), sensitive receptors and potential transport mechanisms that could expose sensitive receptors to unacceptable health and/or ecological risks. The objective of the CSM is to highlight actual or potential exposure pathways that may exist.

A ‘source - pathway - receptor’ approach has been used to assess the potential risks of harm being caused to human, water or environmental receptors from contamination sources on or in the vicinity of the site, via potential exposure pathways. The possible pathways between the sources (S1 to S3) and receptors (R1 to R5) identified in DP (2022) are provided in Table 2 below.

Table 2: Summary of Potentially Complete Exposure Pathways

Source and COPC	Transport Pathway	Receptor
S1 - Uncontrolled Filling In tested areas of the site: Asbestos. Beneath untested building footprints: Metals / metalloids, TRH, BTEX, PAH, OCP, OPP, PCBs and Asbestos	P1 - Ingestion and dermal contact. P2 - Inhalation of dust and / or vapours.	R1 - End users. R2 - Construction and maintenance workers.
	P2 - Inhalation of dust and / or vapours.	R3 - Adjacent site users.
	P3 - Contact with terrestrial ecology.	R4 - Terrestrial ecology.
S2 - Existing buildings on site Asbestos, lead based paints, PCB containing capacitors and synthetic mineral fibre (SMF).	P1 - Ingestion and dermal contact. P2 - Inhalation of dust and / or vapours.	R1 - End users. R2 - Construction and maintenance workers.
	P2 - Inhalation of dust and / or vapours.	R3 - Adjacent site users.

Based on the investigation so far, asbestos has been identified as a likely risk, whilst exposure to the other contaminants of concern are unlikely to be of risk but are subject to the data gap investigations.

8. Further Investigations of Identified Data Gaps

Prior to any remediation / management options being undertaken, further investigations must be implemented to determine the locations and extents of soil contamination across the site. The approximate area of the site is 7 hectares. Under the NSW EPA *Sampling design part 1 - application* (NSW EPA, 2022) guidelines, 55 sampling locations is the minimum number of recommended locations to identify contamination hotspots for an area up to 5 hectares and an additional 30 locations for an area of 2 hectares. To date, a total of 146 test locations have been completed as part of the previous PSI, DSI investigations data gap investigations which complies with the guidelines.

However, a number of buildings are still present on the site where investigations have been unable to be carried out, particularly at CWPS where contamination has been identified (in the form of bonded asbestos) in the south-western section of the CWPS school. As such, the following investigations are required at the completion of building demolition to address the data gaps and to assess the contamination status of the building and hardstand footprints:

- Undertake a walkover to identify any suspected ACM within the demolition footprints and nearby surface by a qualified occupational hygienist or suitably qualified environmental consultant; and
- Additional test pits (sampling, asbestos sieving and testing) within building / road footprints after demolition; and

- Detailed asbestos investigation comprising boreholes or test pits (sampling, asbestos sieving and testing) around the existing finds of asbestos at test locations 313, 314, 315, 319 and 320 to further characterise the extent and nature of the asbestos. Investigations should be carried out in general accordance with the Western Australia Guidelines (WA DoH, 2021):
    - DP notes that the additional testing around 315, 319 and 320 have since been carried out and are reported in (DP, 2023a). The relevant results and implications have been included in this revision of the RAP;
    - Additional investigations around 313 and 314 are yet to be carried out and are to be carried out prior to any remediation in these areas; and
    - Additional investigations to the east of 320 are to be carried out prior to any remediation in this area.

Proposed test locations shown in yellow in Drawings R.002.D.02 and R.002.D.03 in Appendix B.

Sampling and analysis should be undertaken in accordance with the sampling analysis and quality plan (SAQP) included in Appendix D.

At the completion of these additional investigations, the areas of environmental concern requiring remediation should be better defined prior to remediation works commencing. This RAP is to be updated to incorporate the results of the proposed data gap investigation.

9. Remediation Extent and Options

9.1 Remediation Extent (Area of Environmental Concern)

Based on the current information as presented in DP (2022), the estimated extent of remediation comprises:

- Remediation Area 1 : Bonded Asbestos Stage 1 Milestone 1 and Milestone 2
    - The asbestos (bonded) impacted fill within the area shown shaded pink in Drawing R.002.D.02, Appendix B indicating the current estimated extent of possible asbestos contamination, which includes all test locations where asbestos / likely asbestos impacted fill was identified.
    - As shown on the attached Drawing R.002.D.01 and Drawing R.002.D.06 shaded in pink;
    - Remediation through excavation and consolidation in a containment cell;
    - The area was nominated either up to the site boundary or to the next closest test location where PACM fragments were not observed. The full depth of fill requiring remediation ranges from estimated depths of between 0.1 m to 1.5 m to depths of between 0.6 m and 2.0 m.
- Remediation Area 2 (RA2) – Friable Asbestos Stage 1 Milestone 1 and Milestone 2;
    - As shown hatched in light blue in Drawing R.002.D.02, Appendix B;
    - Remediation through excavation and consolidation in a containment cell;
    - Additional validation of the friable asbestos areas will be required;

- Remediation Area 3 (RA3) – Asbestos Stage 1 Milestone 2;
    - o As shown on Drawing R.002.D.02, Appendix B shaded in purple;
    - o This area requires further data gap assessment prior to remediation to confirm the nature and extent of the asbestos previously identified. DP notes that although only bonded asbestos has been identified to date, there is a possibility that friable asbestos may be present and the further data gaps must clarify this this RAP is to be revised or a RAP addendum prepared prior to remediation of this area.
- Remediation Area 4 (RA4): Within Stage 1 Milestone 2 but no proposed development or excavation.
    - o As shown on the Drawing R.002.D.02, Appendix B hatched in yellow;

      As only bonded asbestos has previously been identified nearby at depths greater than 0.5 m below the current surface, further investigation is required to assess whether these areas can be managed without the need for intrusive remediation methods and can be managed through other controls and ongoing management.

The actual extent (the final remediation extent) will be established at the completion of any remaining DGA investigations, the remediation works, and validation process.

9.2 Remediation Options

With reference to NEPC (2013) and CRC CARE (2019b), and in consideration of the potential exposure pathways of asbestos, it is considered that the site can be rendered suitable with respect to the asbestos contamination by either:

a) Detailed asbestos assessment to determine whether the concentration of asbestos is suitable to remain *in situ* without further remediation and is beneath a minimum of 100 mm from the surface. Depending on the results of the assessment, the following options can be undertaken following the detailed asbestos assessment, or, if the assessment is not possible then in lieu of the assessment;

b) Management of asbestos impacted fill through the placement of a capping layer, so as to minimise future disturbance and exposure. This management strategy would comprise the construction of a capping layer over the asbestos impacted fill (existing at depth) and the preparation of a long-term management plan to prevent futured inadvertent exposure of the asbestos contamination to site users; or

c) Removal of asbestos impacted fill from the site; or

d) DP notes that depending on the nature of the asbestos identified, there is a possibility that the asbestos impacted soils can be treated (e.g., emu-picking). However, given the results to date including friable asbestos and that treatment involved the additional disturbance of asbestos impacted fill and the associated potential risks with undertaking asbestos treatment works at an active school, this method has not been included in this RAP as a suitable remediation option. This may be reconsidered if the results of the detailed asbestos investigation are favourable, in which case, this RAP would have to be revised accordingly.

The preferred remediation option is a combination of further assessment and on-site capping and containment depending on the proposed development of the remediation area.

The detailed asbestos assessment (option a) is the preferred approach and should be undertaken when the areas become accessible and controlled as a construction site. The results of this investigation (or investigations) would help to delineate the extent of the asbestos impacted fill and also whether the impacted fill requires any further remediation.

Where the detailed asbestos assessment indicates the need for further remediation, given the nature of the development (i.e., likely requiring some excavation and filling to achieve desired site levels), option (b) is then the preferred approach. It is recommended that to reduce the importation of fill material and to minimise the generation of waste and requirement for disposal to landfill, option (b) should be adopted for the majority of areas, where this is possible.

For Option (b) the type of capping layer would depend on the proposed development, and for example, may be beneath the proposed hardstand areas on site (i.e., building slabs) or in open space areas with a minimum thickness soil capping layer. Some examples of suitable capping layers are included in Drawings R.002.D.04 and R.002.D.05 in Appendix B.

Noting that should there be excess contaminated fill which cannot be contained within the proposed site, it is recommended that excess material be properly classified to meet EPA waste classification requirements and removed off-site to an appropriately licensed landfill i.e. option (c).

10. Preferred Remediation Strategy

Based on the results of the data gap assessment, the preferred remediation strategy for each of the remediation areas is as follows:

- RA1 and RA2: Option (b) On site capping and containment:
    - Based on discussions with the contractor, the preference is to cap the asbestos impacted soils on site within a containment cell in order to consolidate the area requiring on going management. This is based on a project wide decision to have no asbestos impacted fill removed for offsite disposal.
    - DP notes that although parts of RA1 technically do not require remediation as some of the previous results are within the site SAC, the area has been identified as requiring remediation based on fill composition and time constraints of the project limiting further detailed asbestos assessment. As these materials will need to be excavated for development purposes, it has been accepted by the client that the asbestos impacted soils (including those below SAC) can be buried in a containment cell with other asbestos impacted soils which will ensure an asbestos free surface (i.e. the capping) is constructed over these materials. This means that an additional area of ‘asbestos free surface’ does not have to be validated and managed. This approach reduces the total area where asbestos impacted soils are capped on site, reducing future management requirements for the site user (the school).
    - If asbestos volumes excavated are greater than the volume of the containment cell, DP notes that the RA1 and RA2 can be capped in situ without transport to a containment cell, so long as a suitable cap in accordance with the RAP is constructed;

- RA3 and RA4: Detailed Asbestos Investigation:
  - RA3 is not going to be developed until Stage 1 Milestone 2 and is currently part of the active school and as such, the detailed asbestos investigation is yet to be carried out;
  - RA4 is not going to have any construction or excavations and only re-turfing of the area is required;
    - Due to previous detections of asbestos adjacent to this area further detailed asbestos investigation is required to determine the extent of the asbestos contamination. However, given the minimal proposed works, there is a potential that the asbestos is below a depth of 500 mm and can be managed through the future EMP.
  - Should these additional investigations identify the need for further remediation, this RAP will be updated or a RAP addendum prepared and remediation in accordance with this RAP is to be carried out.

The remediation works must be conducted by experienced and appropriately licensed contractors. An experienced Environmental Consultant is to be engaged to inspect the progress of the works and to provide ongoing advice and recommendations as required. The success of the remediation works will be validated by the Environmental Consultant in consultation with other consultants (e.g., Occupational Hygienist, Arborist, etc.).

10.1 Sequence of Remediation

The general sequence of remediation shall be determined by the Contractor, in consultation with the Environmental Consultant, and should consider the following recommended sequence:

- Task 1: Hotspot delineation / Detailed Asbestos Assessment
  - Data-gap investigation of RA3, RA4 and within building footprints (see Section 8) to determine, as much as practicable, the extent of the asbestos impacted fill requiring remediation and/or management.
    - This has partly been carried out and is reported in (DP 2022a) and (DP, 2023a);
    - Further data gap investigations will have to be carried out as the areas become available;
- Task 2: Excavation and consolidation of asbestos in a containment cell:
  - Excavation of asbestos impacted fill to the deeper depth of either:
    - The depth required for development;
    - The minimum depth required to allow the construction of an approved capping design;
  - Placement of asbestos impacted fill in a containment cell
    - DP notes that the placement of the fill should be confirmed with other relevant consultants (e.g. geotechnical, structural, stormwater etc.) to check that the fill is suitable for the intended use;
- Task 3: Capping of containment cell or remediation areas (remaining asbestos impacted fill):
  - Placement of asbestos impacted fill (or if in situ, then no placement required);
    - Additional piling works through placed asbestos impacted fill (where required);
  - Placement of marker layer.
  - Importation of fill/VENM capping.

  - Construction of the capping layer.
- Task 4: Excavation and off-site disposal of any excess fill within Remediation Area 1 or future identified hotspots (as may be identified through the data gap investigation)(contingency plan):
  - Waste classification of unsuitable / surplus fill.
  - Disposal of unsuitable / surplus fill.
  - Validation of remediation excavation.

The remediation details are described in the sub sections below.

10.2 Excavation Methodology

Based on discussions with the client, the following excavation methodology for the excavation of the asbestos impacted soils will be adopted:

- Undertake initial civil works and earthworks that includes the over excavation of the area where asbestos impacted soils are to be placed ('containment cell'). The over excavated natural soils are to be stockpiled separately from the fill for use as the capping layer or for off-site disposal:
- Within the remediation areas, the excavation of asbestos impacted fill is to start from the furthest side away from the proposed containment cell / truck route. The excavation methodology is to be agreed upon between the environmental consultant and the contractors on site;
- The material is to be excavated to the depth of fill observed to be impacted by asbestos (fill observed to be consistent with that described in Section 6);
  - The extent of the excavation may need to be increased (vertically or horizontally) where visual signs of contamination (possible asbestos containing materials or other anthropogenic materials) are identified;
- Excavated soil is anticipated to be transport on pre-defined vehicle routes within the site and impacted soil placed directly within the containment cell or stockpiled in a pre-defined area if required;
- Validation soil samples from the excavation are to be collected by the Environmental Consultant based on the actual remediation extent and additional validation samples collected if deemed necessary;
  - The excavation is to be expanded under the direction of the Environmental Consultant where test results of validation samples do not meet the remediation acceptance criteria.
  - This process may need to be repeated (until all results meet the remediation acceptance criteria if retained on site) or the remaining asbestos impacted soils are at a depth where an appropriate cap can be constructed; and
- At the completion of excavation works and removal of any contaminated stockpiles (to elsewhere within the site or to a licensed landfill), a final visual inspection and validation sampling in accordance with the Validation Plan in the RAP is to be carried out for any un-validated excavations, stockpile footprints and on-site vehicle routes used to transport asbestos impacted soil. A written certification is to be provided by the Environmental Consultant that the area is safe to be accessed for other works purposes.

10.3 Remediation of Friable Asbestos

To avoid temporary stockpiling of asbestos impacted soils on site, it is recommended that the containment cell be formed prior to commencement of excavation of asbestos impacted soils. As such, those asbestos impacted soil can be excavated and placed directly into the cell, especially for friable asbestos impacted soils.

When RA2 is being remediated, the following procedure is to be followed:

- Have in place asbestos air monitoring and other controls as required under the licensed for friable asbestos works and as outlined in the RAP;
    - Strip the friable asbestos impacted material from the whole area shown hatched blue in Drawing R.002.D.02;
- Placement of excavated fill in the containment cell or stockpile awaiting disposal. During stockpiling of the fill, any large objects such as bricks and concrete boulders which would impact on placement and compaction of the fill are to be removed to landfill;
- Inspection and validation sampling of the excavations by the Environmental Consultant as per requirements outlined in Validation Plan in this RAP, including sieving and laboratory testing;
- Further excavation of a nominal 0.5 m soil in the direction where validation inspection and/or sampling results do not meet the site assessment criteria (SAC) for asbestos fines (AF) and fibrous asbestos (FA), refer to Section 5.1;
- Continued excavation and validation until the SAC for AF/FA is met;
- Placement of material in containment cell:
    - If the material is to be contained on site, follow the strategy outlined in Section 10.4 below. Any placed friable asbestos impacted soil is to be capped / covered immediately to prevent wind blown asbestos prior to be covered with soils impacted with bonded asbestos. Any temporary stockpiles of friable asbestos impacted soil are to be covered to prevent wind blown asbestos.
    - For off-site disposal:
        - If the material is to be disposed of off-site, follow the strategy outlined in Section 8.5 . Any temporary stockpiles of friable asbestos impacted soil are to be covered to prevent wind blown asbestos.
- Once the Environmental Consultant is satisfied that the identified friable asbestos has been removed from the excavation area, the Environmental Consultant will advise that subsequent works can continue under bonded asbestos conditions.

10.4 Capping of Asbestos Impacted Fill

10.4.1 Capping of Asbestos Impacted Fill

- Undertake initial civil works and earthworks that includes the over excavation of the area where asbestos impacted soils are to be placed (‘containment cell’). The over excavated natural soils are to be stockpiled separately from the fill for use as capping layer or for off-site disposal;

- Carry out excavation of asbestos impacted fill as per Sections 10.2 and 10.3;
- Place the asbestos impacted fill directly from the impacted areas into the containment cell. Fill lifts to be placed in accordance with project requirements;
    - To minimise the potential break-up of ACM, following the placement of each lift and prior to compaction, the remediation contractor, appropriately licensed for the handling of asbestos (Class A for friable asbestos and Class A or B for bonded asbestos works) is to undertake a walkover of the area where the spoil has been placed to visually inspect the surface and remove all observed ACM (see Section 6);
    - During placement of this material the excavator is to either work from outside the placement footprint, where possible, or track in a backwards direction away from where the material is being placed to minimise tracking over the ACM impacted spoil;
- Environmental Consultant to undertake validation inspection, sampling and testing (refer Section 11.3) of the stockpile footprint /excavation footprints post removal of asbestos impacted soils (if any stockpiles of asbestos impacted soils are generated);
- If piling is to be carried out in the footprint of the containment cells, the additional requirements outlined in Section 10.4.2 must be followed prior to completing the following steps;
- Visual inspection of placed asbestos impacted soils or in situ asbestos impacted soils by the Environmental Consultant of the surface of the remediation area in a 2 m by 2 m grid for any visual signs of ACM;
- Survey by a licensed surveyor of the location, geometry, elevation and extent of the remediation area to be capped at a minimum density of one survey point per 10 m2 (aligning with the extent of asbestos identified) and 0.5 m beyond the remediation area;
- Placement by the Contractor of an orange marker layer over the upper surface of the material to be capped. The marker layer will extend approximately 0.5 m beyond the edge of the material to be capped;
- Survey by a licensed surveyor of the location, geometry, and extent of the marker layer at a minimum density of one survey point per 10 m^2;
- Inspection by the Environmental Consultant of the marker layer;
- Construction by the Contractor of a capping layer over the marker layer (see Drawings R.002.D.04 and R.002.D.05, Appendix B in the RAP also attached for examples of suitable capping configurations). The capping layer may comprise either a hardstand (minimum combined pavement and subgrade thickness of 0.15 m) or a soil fill capping which is at least 0.5 m in thickness (or other thicknesses as approved by the Environmental Consultant and Site Auditor), comprising compacted cohesive soils meeting the Remediation Assessment Criteria (Section 11 of the RAP);
- The compaction of the capping layer will meet geotechnical requirements as defined and checked a geotechnical consultant but are anticipated to include, as a minimum:
    - Maximum lifts between compaction of 300 mm;

- Compaction of the filling to a dry density ratio of at least 95% of maximum dry density (MDD) relative to Standard compaction; and
- Hilf density tests to confirm compaction requirements have been met. Testing will be conducted with reference to Table 8.1 Frequency of Field Density Results, AS3798-2007 Guidelines on earthworks for commercial and residential development.

- Survey by a licensed surveyor of the capping layer extent (vertical and horizonal) and finish surface levels at a minimum density of one survey point per 10 m^2. If certain areas do not meet the required capping layer thickness, then additional suitable material is to be placed and compacted and the subject area re-surveyed at the same locations and overlaid on the initial survey drawing to confirm design compliance;
- Final Inspection by the Environmental Consultant of the capping layer with respect to the absence of ACM at the surface. Visual observation is to be undertaken on a (minimum) 3 m x 3 m cross grid pattern to confirm the absence of any visual identifiable asbestos at the surface; and
- Preparation of a Validation Report for the site and a Long-Term Environmental Management Plan (LTEMP) which includes any future long-term (ongoing) management requirements post development.

It is noted that a preliminary LTEMP (DP, 2022) has previously been prepared for the site during development application stage.

10.4.2 Capping at Pile Locations Within Containment Cells

As the containment cells will be constructed and filled with asbestos impacted soil prior to foundation piling works, the following procedure must be adopted for the locations where piling is anticipated to go through the containment cells.

It is noted that to avoid the piling contractor having to work under asbestos conditions, the earthworks contractor who is carrying out the asbestos remediation works will be “pre-piling” the pile locations that are within the asbestos containment cells / asbestos impacted areas. The earthworks contractor will pre-pile wider diameter pile holes at these piling locations through the asbestos impacted fill and natural soils and backfill these wider diameter piles with non-asbestos impacted soils. The containment cells will then be capped with a marker layer and a piling platform constructed to allow the piling contractor to carry out the piling works through the backfilled non-asbestos impacted soils and into the underlying natural soils and rock without having to adopt asbestos working conditions for the duration of the foundational piling works.

The procedure of the pre-piling works is as follows:

- Pre-excavation of wider diameter pile holes through asbestos impacted soils and installation of a pile sleeve through the fill / soil profile. This is to be carried out under the same asbestos management conditions as required for the remediation works of the asbestos impacted soils:
  - Placement of asbestos impacted piling returns within the containment cell;

  - The pile sleeves are then to be filled with stabilised sand / non asbestos impacted soils (if it is imported it will need to be tested and approved by DP prior to import).
  - DP notes these pre-piling holes are larger than the proposed widths such that the future piling will not drill through the buried asbestos impacted fill;
- Survey of the pile locations by a licenced surveyor for identifying future piling locations;
- Construction of capping marker layer prior to foundation piling works as follows:
  - Survey by a licensed surveyor of the location, geometry, elevation and extent of the remediation area to be capped at a minimum density of one survey point per 10 m^2 (aligning with the extent of asbestos identified) and 0.5 m beyond the remediation area;
  - Placement by the Contractor of an orange marker layer over the upper surface of the material to be capped. The marker layer will extend approximately 0.5 m beyond the edge of the material to be capped;
  - Survey of the pile locations by a licenced surveyor
  - Cutting a hole to the dimensions of the proposed pile in the geofabric at the pile locations to prevent future piling works from catching and pulling out the lain geofabric layer;
  - Survey by a licensed surveyor of the location, geometry, and extent of the marker layer at a minimum density of one survey point per 10 m^2;
  - Inspection by the Environmental Consultant of the marker layer;
- Survey of the pile locations by a licenced surveyor for identifying future piling locations;
- Construction of a piling platform above the marker layer;
- Undertake foundation piling works drilling through the pre-piled locations; and
- Construction of final capping layer above marker layer as per Section 10.4.1.

10.5 Removal of Asbestos Impacted Fill (Contingency Only)

Removal of asbestos impacted fill entails the following general approach:

- Segregation of the asbestos impacted fill from the underlying natural soils / bedrock and stockpiling;
- Inspection of the excavation area by the Environmental Consultant to confirm that the asbestos impacted fill has been removed;
- Based on the observations of the excavation and stockpiled fill by the Environmental Consultant, validation samples will be required as per Section 15.3 to confirm that the remaining fill or exposed natural soils / bedrock have not been impacted by the overlying asbestos impacted fill;
- Further stripping of surface soil if validation inspection and / or sampling results do not meet the site assessment criteria (Refer to Section 10.2 if remaining asbestos impacted fill is to be capped);
- Survey of the area subject to full fill removal at a minimum density of one survey point per 10 m^2. Surveys are to be included on a drawing which must show, at a minimum, the following:
  - Boundary of the remediated area and where existing fill has been retained; and
  - Relative level (m AHD) of the remediated area where existing fill has been retained.

- Inspection and confirmation of the waste classification by the Environmental Consultant prior to disposal of the stockpiled fill. Stockpiled materials should be managed in accordance with Section 14.1; and
- Disposal of asbestos impacted fill to an appropriately licensed waste facility based on the final waste classification (NSW EPA 2014) in accordance with Section 14.2 including the use of WasteLocate tracking records for all asbestos impacted fill disposed off-site.

11. Assessment Criteria

11.1 Remediation Assessment Criteria

In the absence of derivation of Tier 2 site specific target levels (SSTL), the remediation acceptance criteria (RAC) for identified contaminants in soil are the same as the Tier 1 site assessment criteria (SAC) adopted in DP (2022), protective of human health and ecology. The following Table 3 provides a summary of the qualitative and concentration-based RAC.

Table 3: Remediation Acceptance Criteria

Item	Remediation Acceptance Criteria
Remediation Area 1 Cap and Contain / Off-site Disposal Asbestos	The concentration of contaminants in imported materials are to meet the SAC, Section 11.2. Imported materials are also to comprise either VENM or materials complying with a relevant NSW EPA Resource Recovery Order allowing land application within the site. The RAC is for the cap to meet the nominated design thickness of: • 0.5 m in landscaped / grassed / new tree areas; • 0.15 m in paved / hardstand / similarly impenetrable material covered areas; and • 0.5 m within existing tree protection zones (if present), but subject to further assessment where this capping thickness cannot be achieved. The cap (within the nominated tolerance) is to be laid over a brightly coloured (e.g., orange) geotextile marker layer. In the case of existing trees (if there is a tree protection zone in the remediation area), the geotextile marker it to extend 0.15 m up the trunk of the tree. The RAC for off-site disposal is for the base and sides of the excavation to have no visible asbestos, and concentrations for bonded ACM is to be less than 0.01% w/w and fibrous asbestos / asbestos fines (FA and AF) is to be less than 0.001% w/w.

Note that the results of the data gap investigation may identified additional contaminants requiring some form of remediation or management, and the results may warrant a change to the RAC presented in Table 3.

11.2 Site Assessment Criteria

Additional area(s) of contamination encountered beyond those outlined in Section 9, either as a result of the proposed data gap investigation, or during the course of the remediation and site redevelopment (as unexpected finds, refer Appendix E) will be subject to assessment using the SAC in Appendix F. The SAC are the same as the Tier 1 SAC adopted for DP (2022). This is on the provision that other considerations such as risks to groundwater are also taken into account. The broader list of contaminants and their SAC are included in Appendix F.

In the absence of RAC, the SAC will also be used as part of the assessment framework for imported soils (i.e., contaminant concentrations in imported soils must, as a minimum, comply with the SAC).

The adopted investigation and screening levels comprise levels for a generic residential with accessible soils land use scenario, which incorporates primary school land uses. The derivation of the SAC and the adopted SAC are listed in the tables in Appendix F.

12. Validation Plan

12.1 Data Quality Objectives and Indicators

The validation assessment is to be conducted in accordance with Data Quality Objectives (DQOs) and Quality Assurance / Quality Control (QA / QC) procedures to ensure the repeatability and reliability of the results.

The validation assessment will be planned in accordance with the following DQOs are detailed in Table 4:

- State the Problem;
- Identify the Decision;
- Identify Inputs to the Decision;
- Define the Boundary of the Assessment;
- Develop a Decision Rule;
- Specify Acceptable Limits on Decision Errors; and
- Optimise the Design for Obtaining Data.

Table 4: Data Quality Objectives

Step	Summary
1: State the problem	The site requires remediation and validation of remediation in order to render it suitable for residential A (primary and secondary school) land use. The objective of the validation plan is to confirm the successful implementation of this remediation action plan. A conceptual site model (CSM) for the proposed development has been prepared (Section 7).

Step	Summary
2: Identify the decisions / goal of the study	The decision is to determine the site is suitable for the proposed residential A (primary and secondary school) land use following remediation of the site. The CSM identifies contamination at the site which posed potentially unacceptable risks to human health. The remediation strategy required the ACM impacted fill be retained on site beneath a marker layer and the construction of a capping layer with the removal of any excess ACM impacted fill. Unacceptable risk which was confirmed to contain ACM. The decision is to establish whether the capping layer has been placed or fill removed in general accordance with the RAP and whether the site has been remediated in general accordance with the RAP.
3: Identify the information inputs	Relevant inputs to the decision include: • The CSM identifying CoPC and affected media; • Results analysed for the relevant CoPC using NATA accredited laboratories and methods, where possible; • Field and laboratory QA / QC data to assess the suitability of the environmental data for the validation assessment; • Results compared with the RAC; • Inspections of the maker layer prior to capping works; • Assessments of aggregates, soil, etc imported as part of the capping; • Inspections of the capping; • Review of the survey of the installed capping; • An enforceable long term environmental management plan (LTEMP) has been prepared for implementation during use of the land for residential A (primary and secondary school) land use purposes; and • Details of the proposed development.
4: Define the study boundaries	The lateral boundaries of the site are shown on Drawing R.002.D.01, Appendix B. The vertical boundaries are to the extent of contamination impact as determined from the site history assessment, site observations and previous investigations used to inform the RAP.
5: Develop the analytical approach (or decision rule)	The decision rule is the construction of the capping to at least the minimum thicknesses included in Section 10 and Appendix B and / or removal of fill in accordance with Section 10. Quality control results are to be assessed according to their relative percent difference (RPD) values. For field and laboratory duplicate results, RPDs should generally be below 30%; for field blanks, results should be at or less than the limits of reporting (NEPC, 2013). The field and laboratory quality assurance assessment is included in Section 15.

Step	Summary
6: Specify the performance or acceptance criteria	Baseline condition: The capping has not been constructed in accordance with this RAP and excess impacted fill has not been removed from site in accordance with the RAP (null hypothesis). Alternative condition: The capping has been constructed in accordance with this RAP and excess fill removed from the site in accordance with the RAP (alternative hypothesis). Unless conclusive information from the collected data is sufficient to reject the null hypothesis, it is assumed that the baseline condition is true.
7: Optimise the design for obtaining data	Sampling design and procedures to be implemented to optimise data collection for achieving the DQOs include the following: • Sampling frequencies in accordance with Section 13.2; • Analysis for the CoPC identified in the CSM (i.e., asbestos) at NATA accredited laboratories using NATA endorsed methods will be used to perform laboratory analysis whenever possible; • Adequately experienced environmental scientists/engineers will conduct field work and sample analysis interpretation; • Visual inspections of the cap construction by the Environmental Consultant in accordance with Section 12.2 and 12.3; and • Registered survey of the capping layer in accordance with Section 12.2.

A checklist of Data Quality Indicators (DQI) in accordance with NEPC (2013) Schedule B2 is to be completed as part of the validation assessment. The DQIs are:

- Completeness;
- Comparability;
- Representativeness;
- Precision; and
- Accuracy.

Based on a fulfilment of the DQOs and DQIs an assessment of the overall data quality is to be presented in the validation assessment report.

12.2 Validation Assessment Requirements

The following site validation work will be required:

- Field assessment by the Environmental Consultant comprising:
  - Visual inspection, including taking photographs and notes for record purposes;
  - Collecting validation samples from excavations resulting from the removal of contaminated soils (in accordance with procedures outlined herein and Appendix D); and
  - Collecting validation / characterisation samples for materials to be re-used on site.

- Surveying by the Surveyor comprising:
  - Survey of the extent and levels of the base of the excavations;
  - Survey of the extent and levels of the top of the marker layer; and
  - Survey of the extent and levels of the top of the capping layer.
- Laboratory analysis of validation samples at a NATA accredited laboratory for:
  - The CoPC relevant to the remediation area based on the CSM is as follows:
    - Remediation Area 1 - Asbestos; and
  - Quality control (QC) samples in accordance with Section 15.
- Comparison by the Environmental Consultant of the laboratory results with the SAC and / or RAC as appropriate (refer to Section 11) noting that the remediation and subsequent validation process is to continue until DQOs are met; and
- Preparation by the Environmental Consultant of a validation report detailing the methods and results of the remediation works and validation assessment.

12.3 Visual Inspections

All areas to be assessed and validated will first be subject to a visual inspection by the Environmental Consultant. Any areas of asbestos impacted fill / ACM (as appropriate for the remediation) must be removed prior to validation sampling, where removal is adopted as the remediation approach.

When inspecting areas for the presence of asbestos (i.e., post fill removal, stockpile footprint), this is to be undertaken on a 3 m x 3 m cross grid pattern to confirm the absence of any visible asbestos at the surface and in the upper 100 mm where soils have been disturbed.

12.4 Validation Sampling

The sampling frequency will depend on the volume or area to be assessed and the previous results. The following approximate sampling frequencies will be adopted but may be modified by the Environmental Consultant to take into account previous results, where applicable.

Remediation Excavations

Small to medium excavations (base <500 m^2):

- Base of excavation: one sample per 25 m^2 to 50 m^2 or part thereof, with a minimum of three samples collected; and
- Sides of excavation: one sample per 10 m to 20 m length or part thereof with a minimum of one sample per wall. Additional samples will be collected at depths of concern where there is more than one depth of concern, with a minimum of one sample per 1.5 m depth in fill.

Large excavations (base ≥500 m^2):

- Base of excavation: sampling on a grid at a density in accordance with Table 2 in (NSW EPA, 2022) or a minimum of 10 samples. In sub-areas with any specific signs of concern, a higher sampling density may be required; and
- Sides of excavation: one sample per 20 m length or part thereof with a minimum of one sample per wall. Additional samples will be collected at depths of concern where there is more than one depth of concern, with a minimum of one sample per 1.5 m depth in filling.

Stockpiled Material Footprints

In the scenario that contaminated soils are temporarily stockpiled in areas of the site which have been validated following the removal of contaminated soils or in an area which do not require remediation, the environmental consultant is to validate the stockpile footprint as follows:

- Visual inspection of stockpile footprint;
- Sampling and analysis of the soil by the environmental consultant with reference to NEPC (2013) and guidelines. Sampling is to be at a rate of one sample per 25-50 m^2 or part thereof and a minimum of three samples;
- Analysis of collected samples for (as a minimum) the contaminants of concern respective to the source of the material;
- Where the reported concentration of the COC is greater than the RAC, further excavation of the surface soils will be required, and the validation process repeated (as outlined above). The additional soil generated during the chase out will require remediation with reference to Section 6; and
- A record of the validation is to be kept and included as part of the final validation.

Areas Containing Unexpected Finds

For areas subject to unexpected finds, soil validation sampling is likely to be required once the unexpected finds have been removed. The sampling rate adopted by the Environmental Consultant is to be reflective of the works being assessed, area and risk. In this regard, reference should be made to the NSW EPA *Sampling design part 1 - application* (NSW EPA, 2022) for general validation of areas and to Section 11.2 for validation associated with asbestos impacted areas.

Results of the validation sampling are to be compared to the RAC as outlined in Section 7.

Where contaminated soils are stored or treated on bare soils, the footprint of the stockpile will require validation following removal of the contaminated soils.

Validation samples will be analysed by a NATA accredited laboratory for the relevant CoPC relevant to the remediation area.

Validation sample test results will be compared to the RAC, as per the DQO. Where the RAC are considered to have not been met, the remediation excavation(s) will be expanded to 'chase-out' impacted material, as instructed by the Environmental Consultant, with the validation sampling then continuing into the extended excavation. This process will continue until the impacted material has been fully chased out.

13. Waste Disposal

Any waste disposed off-site must be initially classified by the Environmental Consultant in accordance with:

- NSW EPA *Waste Classification Guidelines, Part 1: Classifying Waste* (NSW EPA, 2014a);
- NSW EPA *Waste Classification Guidelines, Part 2: Immobilisation of Waste* (NSW EPA, 2014b);
- NSW EPA *Waste Classification Guidelines, Part 4: Acid Sulfate Soils* (NSW EPA, 2014c); and
- NSW EPA *Addendum to the Waste Classification Guidelines (2014) - Part 1: Classifying Waste* (NSW EPA, 2016) [addendum for per- and poly-fluoroalkyl substances (PFAS)].

Disposal of waste must be to an appropriately licensed waste facility, as per *Protection of the Environment Operations Act 1997* NSW (POEO Act) and the *Protection of the Environment (Waste) Regulation 2014* NSW.

Samples will be collected from stockpiles / in situ fill at various depths to characterise the full depth of the material. The frequency is to be determined by the Environmental Consultant based on the risk of contamination and heterogeneity of the material.

The suggested sampling frequency for the initial assessment of stockpiles comprising similar materials shall be:

- One sample per 25-50 m^3 for stockpiles up to 200 m^3, with a minimum of three per stockpile; and
- One sample per 50-100 m^3 for stockpiles greater than 200 m^3, by applying statistical analysis with reference to EPA Victoria *Soil Sampling* (EPA Victoria, 2009).

It may be possible to classify excavated soil / fill for reuse on another site under a relevant NSW EPA resource recovery order (RRO) so that it can be used on other sites under the requirements of the corresponding NSW EPA resource recovery exemption (RRE). For this option, the frequency of sampling should be in accordance with the relevant RRO and the contaminants to be analysed will be determined by the Environmental Consultant. The Environmental Consult will provide a report confirming the suitability of the spoil for reuse under a RRO, or otherwise.

All waste must be tracked by the Remediation Contractor from 'cradle to grave'. Copies of all consignment notes / disposal dockets (or similar) and Environment Protection Licences for receipt and disposal of the materials must be maintained by the Remediation Contractor as part of the site log and must be provided to the Environmental Consultant for inclusion in the validation report.

14. Imported Material

Any soil, aggregate etc imported for the remediation works must have contaminant concentrations that meet the relevant criteria outlined in Section 11.2 and have no aesthetic issues of concern. Imported materials will only be accepted for use at the site if:

- It can legally be accepted onto the site (e.g., classified as VENM, accompanied by a report / certificate prepared by a qualified environmental consultant);

- Visual inspection of the imported soil confirms that the soil has no signs of concern and is consistent with those described in the supporting classification documentation; and
- The materials are validated (by inspection / sampling) by the Environmental Consultant as being suitable for use at the site.

The classification report / certificate for all material proposed for import must be reviewed and approved in writing by the Environmental Consultant prior to import. Materials to be imported may need to meet geotechnical requirements which are to be assessed by others, as required.

If permitted by the development consent and approved by the site owner, Remediation Contractor and Environmental Consultant and Site Auditor, material classified under a NSW EPA RRO may also be accepted, provided the material can be used on site in accordance with the corresponding RRE. This could include excavated natural material (ENM), classified under NSW EPA *Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014, The excavated natural material order 2014* (NSW EPA, 2014d).

The need for check-sampling of RRO material is to be determined by the Environmental Consultant depending on the source of the material, adequacy of the supporting documentation provided and inspection(s) of material. Quarried material / VENM may need little or no check sampling.

Any imported recycled aggregates must be sampled at a frequency of sampling of one sample per 25 m^3, with a minimum of three samples per load. The recycled aggregate will not be permitted to be used on site until the results of the inspection and laboratory analysis have been approved in writing by the Environmental Consultant.

15. Quality Assurance and Quality Control

Field quality assurance and quality control (QA / QC) testing will include the following:

- 10% of samples comprising of both inter- and intra-laboratory analysis, analysed for the same suite as primary sample (Relevant to chemical contaminants only i.e., not applicable to asbestos);
- Rinsate samples (where re-useable sampling equipment is used), analysed for the suite of analytes analysed by the majority of the primary samples (relevant to chemical contaminants only i.e., not applicable to asbestos); and
- Trip spike and trip blank samples (analysed for BTEX) (approximately one per batch of samples) (relevant to volatile contaminants only i.e., not applicable to asbestos).

The laboratory will undertake analysis in accordance with its NATA accreditation, including in-house QA / QC procedures.

The QC analytical results will be assessed using the following criteria:

- Sampling location rationale met the sampling objective;
- Standard operating procedures (SOP) are followed;
- Appropriate QA / QC samples are collected / prepared and analysed;

- Samples are stored under secure, temperature-controlled conditions;
- Chain of custody documentation is employed for the handling, transport and delivery of samples to the selected laboratory;
- Conformance with specified holding times;
- Accuracy of spiked samples within the laboratory's acceptable range (typically 70-130% for inorganic contaminants and greater for some organic contaminants);
- Field and laboratory duplicate and replicate samples will have a precision average of +/- 30% relative percentage difference (RPD); and
- Rinsate samples will show that the sampling equipment (if used) is free of introduced contaminants, i.e., the analytes show that the rinsate sample is within the normal range for deionised water.

16. Management and Responsibilities

16.1 Site Management Plan

A general site management plan for the operational phase of site remediation is included in Appendix G. The management plan includes soil, noise, dust, work health safety (WHS), remediation schedule, hours of operation and incident response. The Remediation Contractor is to implement the general site management plan for the duration of remedial works by incorporating the plan into their over-arching construction environmental management plan (CEMP).

16.2 Site Responsibilities

The site management plan (Appendix G) provides a summary of the general program management and associated responsibilities. Contact details for key utilities are also included in the event of needing to respond to any incidents.

16.3 Regulatory Compliance

All works must be also undertaken in accordance with the development consent conditions and relevant regulatory criteria as shown in Table 5 below.

Table 5. Summary of Regulatory Requirements and Standards

Regulation / Guidelines	Key Requirements
NSW Work Health and Safety Act 2011 (WHS Act);	Legislation which outlines the frameworks required to ensure the health and safety of workers and workplaces for all work-related activities
NSW *Work Health and Safety Regulation* 2017 (WHS Regulation);	Regulation which outlines some requirements for employers, including the need to manage risks. Under WHS regulations, employers must have a process for eliminating or minimising risks to workers.

Regulation / Guidelines	Key Requirements
NSW *Contaminated Land Management Act* 1997 (CLM Act);	Legislation that establishes a process for the EPA to identify, investigate and remediate land that it considers to be contaminated significantly enough to require regulation. The works should comply with statutory guidelines issued under Section 105.
National Environment Protection Council (NEPC) (New South Wales) Act 1995 and NEPC *National Environment Protection Measures 2013 (NEPM)*;	Legislation that allows the NEPC to establish national environmental protection measures (NEPMs) in NSW to meet the national objectives designed to assist in protecting or managing particular aspects of the environment.
NSW *Protection of the Environment Operations Act* 1997 (POEO Act);	Provides the requirements for the classification, handling, transport and disposal of waste generated by the works.
SafeWork NSW, *Code of Practice How to Manage and Control Asbestos in the Workplace* July 2020; and	Provides information on how to identify the presence of asbestos at the workplace and how to implement measures to eliminate or minimise the risk of exposure to airborne asbestos fibres.
SafeWork NSW *Code of Practice How to Safely Remove Asbestos* July 2020.	Provides practical guidance to a person conduction a business or undertaking (PCBU) on how to manage health and safety risks associated with removing asbestos or ACM from workplaces.
State Significant Development	The works must comply with the state significant development consent requirements.

16.4 Contingency Plan and Unexpected Finds Protocol

Plans for contingency situations (e.g., encountering asbestos in fill), along with an unexpected finds protocol for dealing with unexpected finds during remediation work / earthworks, are included in Appendix E.

17. Validation Reporting

17.1 Documentation

The following documents will need to be collated and reviewed by the Environmental Consultant as part of the validation assessment (including those items that are prepared by the Environmental Consultant):

- Any licences and approvals required for the remediation works;
- Waste classification report(s);
- Transportation Record: comprising a record of all truck-loads of soil (including aggregate) entering the site, including truck identification (e.g., registration number), date, time, source site, load characteristics (e.g., type of material, i.e. quarried aggregate, etc.), approximate volume, use (e.g., general site raising, service trenches, etc.);

- Disposal dockets: for any soil disposed off-site. The Remediation Contractor will supply records of: transportation records, spoil source, spoil disposal location, receipt provided by the receiving waste facility / site. Note: A record of the building materials disposed off-site is also be kept and provided to the Principal, on request;
- Imported materials records: records for any soil imported onto the site, including source site, classification reports, inspection records of soil upon receipt at site and transportation records;
- Records relating to any unexpected finds and contingency plans implemented;
- Laboratory certificates and chain-of-custody documentation;
- Inspections records from the Environmental Consultant;
- Photographic records by all contractors and consultants of the works undertaken within their purview of responsibilities;
- Surveys pre- and post-installation of geotextile marker layer and clean fill cap;
- Airborne asbestos monitoring records (in the event that friable asbestos works are undertaken); and
- Interim / final visual and sampling clearances for any asbestos related works (in the event that asbestos works are undertaken).

17.2 Reporting

A validation assessment report will be prepared by the Environmental Consultant in accordance with NSW EPA (2020).

The validation report shall describe the remediation approach adopted, methodology, results and conclusion of the assessment and make a statement regarding the suitability of the site for the proposed development (public school and secondary school).

18. Long Term Environmental Management Plan

For areas of the site where contamination or residual contamination is to remain encapsulated on site beneath a capping layer, a LTEMP is required. The LTEMP outlines the requirements for managing the integrity of the capping layers so that the site remains suitable for the proposed land use without posing potentially adverse risks. The LTEMP is to include the following:

- Details of the site, development works, identified contamination and final remediation area;
- Capping construction details;
- Legal requirements including notation of the capped contamination on the relevant planning certificate (Section 10.7), a drawing showing the extent of the remediation and incorporation of the LTEMP into the site Asbestos Management Plan;
- The LTEMP implementation trigger (for active works);
- Maintenance of the capping construction;

- Management of future intrusive works; and
- Roles and responsibilities relevant to the LTEMP.

A preliminary LTEMP (PLTEMP) has been prepared for this project and should be updated following the completion of the remediation to form the LTEMP to include final remediation area and capping details.

19. Conclusions

The remedial works outlined in the RAP include the following:

- Further data gap investigations (Section 8);
- Preferred Remediation Strategy (Section 10);
- Remediation of any additional finds of asbestos or unexpected finds of other contamination (Section 16.4).
- Validation of remediation.

Subject to the proposed further data gap investigations (Section 8), the RAP objectives will be met following the appropriate remediation, management, and validation in accordance with this RAP.

It will address potentially unacceptable risks to relevant environmental values from contamination and render the site suitable, from a contamination perspective, for the proposed redevelopment and land use (continued public and secondary school).

The success of the remediation is to be validated and reported as outlined herein.

As noted herein, any remediation or management option that retains and caps asbestos impacted soils will be subject to a LTEMP. This will include limitations and ongoing management requirements which may limit the proposed future land use of areas, notably, any future intrusive works.

The RAP is to be updated at the completion of the data gap investigation (Section 8) and confirmation of the proposed development layout in the identified remediation area(s), which will govern the capping layer design.

20. References

CRC CARE. (2019a). *Remediation Action Plan: Development - Guideline on Establishing Remediation Objectives.* National Remediation Framework: CRC for Contamination Assessment and Remediation of the Environment.

CRC CARE. (2019b). *Remediation Action Plan: Development - Guideline on Performing Remediation Options Assessment.* National Remediation Framework: CRC for Contamination Assessment and Remediation of the Environment.

DP. (2022). *Preliminary Long-Term Environmental Management Plan, Carlingford West Public School and Cumberland High SChool Upgrades, 59-73 Felton Road and 183 Pennant Hills Road, Carlingford (DP Reference: 86976.03.R.004.Rev1).*

DP. (2023a). *Report on data gap investigation - stage 1, Cumberland Cluster, 59 - 73 Felton Road and 183 Pennant Hills Road, Carlingford NSW (DP reference 86976.06.R.001.Rev0 dated 21 December 2023).*

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NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW DUAP/EPA. (1998). *Managing Land Contamination, Planning Guidelines, SEPP 55 – Remediation of Land .* NSW Department of Urban Affairs and Planning / Environment Protection Authority.

NSW EPA. (2014a). *Waste Classification Guidelines, Part 1: Classifying Waste.* NSW Environment Protection Authority.

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NSW EPA. (2014d). *Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014, The excavated natural material order 2014.* NSW Environment Protection Authority.

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NSW EPA. (2020). *Guidelines for Consultants Reporting on Contaminated Land.* Contaminated Land Guidelines: NSW Environment Protection Authority.

NSW EPA. (2022). *Contaminated Land Guidlines, Sampling Design Part 1 - Application.* Contaminated Sites.

WA DoH. (2021). *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.* WA Department of Health.

21. Limitations

Douglas Partners (DP) has prepared this remediation action plan (RAP) for this project at 59 – 73 Felton Road and 183 Pennant Hills Road, Carlingford in accordance with DP's proposal 16 October 2023. The work was carried out under DP's Engagement Terms. This RAP is provided for the exclusive use of Roberts Co (NSW) Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The RAP is a plan for which site remediation can be achieved and should not be used as design specifications, or for the purposes of estimation of remediation quantities, capping material quantities and/or for waste disposal volumes.

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

DP's advice is based upon the conditions encountered during previous DP investigations referenced in the RAP. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this RAP and requires additional project data and assessment.

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

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

Asbestos has been detected by observation or by laboratory analysis, in fill materials at selected test locations sampled and analysed. Building demolition materials, such as concrete, brick, tile, ceramics, porcelain and terracotta pipe fragments, were, however, located in previous below-ground fill, and these are considered as indicative of the possible presence of hazardous building materials (HBM), including asbestos.

Although the sampling plan adopted for the previous DP investigations referenced in this RAP are considered appropriate to achieve the stated project objectives, there are necessarily parts of the site that have not been sampled and analysed. This is either due to undetected variations in ground conditions or to parts of the site being inaccessible and not available for inspection/sampling and reasonable access. It is therefore considered possible that HBM, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling locations, and hence no warranty can be given that asbestos is not present.

Douglas Partners Pty Ltd

Appendix A

About this Report

About this Report

Douglas Partners

Introduction

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

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

Copyright

Borehole and Test Pit Logs

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

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

Groundwater

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

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

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

Reports

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

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

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

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

About this Report

Site Anomalies

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

Information for Contractual Purposes

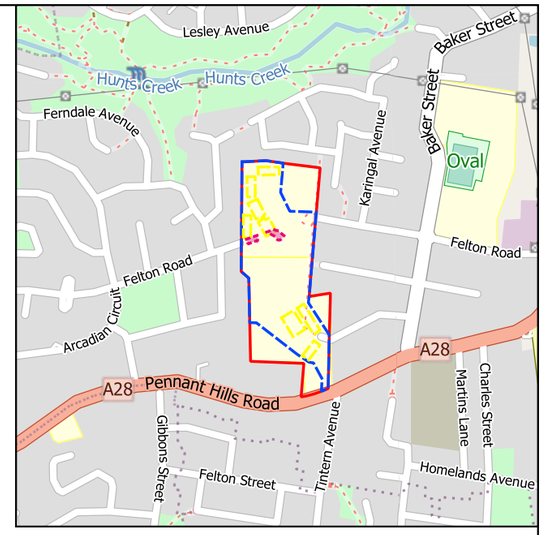
Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate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

Site Inspection

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

Appendix B

Drawings



Notes:
1. Drawing projection GDA94 / MGA zone 56
2. Latest available aerial imagery sourced from metromap.com accessed 9/6/2022
3. Boundaries shown are approximate only

Legend

- Approximate School Site Boundary
- Proposed New Buildings and New Carparks
- Approximate SSD Site Boundary
- RA1 - Bonded Asbestos
- RA2 - Friable Asbestos Remediation Area
- RA3 - Stage 1 Milestone 2 Further Assessment Required
- RA4 - No development, further assessment required

Project Stages

- Stage 1 Milestone 1
- Stage 1 Milestone 2
- Stage 1 Milestone 3
- Stage 1 PPOB
- Stage 1 Milestone 5
- Stage 2

Building Labels

- Proposed Demolition / Rennovation
- Proposed New Buildings
- Existing buildings - No Proposed Development

20 0 20 40 60 80 100 m

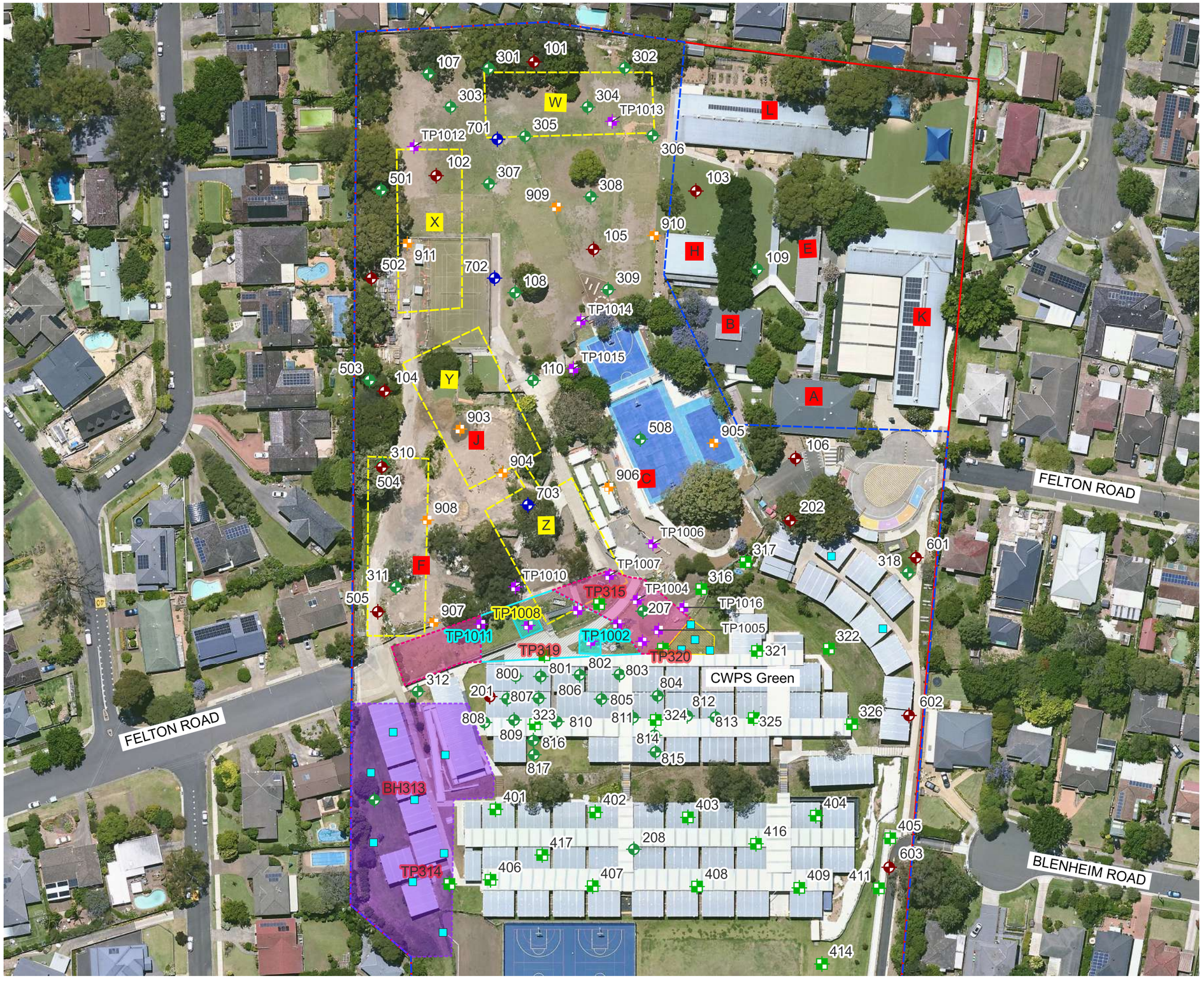
Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT:	Roberts Co (NSW) Pty Ltd		
OFFICE:	Sydney	DRAWN BY:	LT
SCALE:	1:2500 @ A3	DATE:	20.02.2024

TITLE: **Site Location Plan**
Carlingford West Public School and Cumberland High School
59-73 Felton Road and 183 Pennant Hills Road, Carlingford

N

PROJECT No:	86976.03
DRAWING No:	R.002.D.01
REVISION:	4



Notes:
1. Drawing projection GDA94 / MGA zone 56
2. Latest available aerial imagery sourced from metromap.com accessed 9/6/2022
3. Boundaries shown are approximate only

Legend

- Approximate School Site Boundary
- Proposed New Buildings and New Carparks
- Approximate SSD Site Boundary
- RA1 - Bonded Asbestos
- RA2 - Friable Asbestos Remediation Area
- RA3 - Stage 1 Milestone 2 Further Assessment Required
- RA4 - No development, further assessment required

Building Labels

- Proposed Demolition / Rennovation
- Proposed New Buildings
- Existing buildings - No Proposed Development

Previously Completed Test Locations

- Environmental Borehole Location
- Environmental Test Pit Location
- Combined Geotechnical and Environmental Borehole Location
- Combined Geotechnical and Environmental Borehole Location with Rock Coring
- Surface Sample
- Test Location DGA (DP2022a)
- Test Pit Location DGA2 (DP 2023a)
- Proposed Data Gap Test Location

10 0 10 20 30 40 50 m

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT:	Taylor Construction Pty Ltd		
OFFICE:	Sydney	DRAWN BY:	LT
SCALE:	1:1200 @ A3	DATE:	20.02.2024

TITLE: **Proposed Test Location Plan (North)**
Carlingford West Public School and Cumberland High School
59-73 Felton Road and 183 Pennant Hills Road, Carlingford

PROJECT No:	86976.03
DRAWING No:	R.002.D.02
REVISION:	4

Notes:
1. Drawing projection GDA94 / MGA zone 56
2. Latest available aerial imagery sourced from metromap.com accessed 9/6/2022
3. Boundaries shown are approximate only

Legend

- Approximate School Site Boundary
- Proposed New Buildings and New Carparks
- Approximate SSD Site Boundary
- RA1 - Bonded Asbestos
- RA2 - Friable Asbestos Remediation Area
- RA3 - Stage 1 Milestone 2 Further Assessment Required
- RA4 - No development, further assessment required

Building Labels

- Proposed Demolition / Rennovation
- Proposed New Buildings
- Existing buildings - No Proposed Development

Previously Completed Test Locations

- Environmental Borehole Location
- Environmental Test Pit Location
- Combined Geotechnical and Environmental Borehole Location
- Combined Geotechnical and Environmental Borehole Location with Rock Coring
- Surface Sample
- Test Location DGA (DP2022a)
- Test Pit Location DGA2 (DP 2023a)
- Proposed Data Gap Test Location

10 0 10 20 30 40 50 m

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT:	Taylor Construction Pty Ltd		
OFFICE:	Sydney	DRAWN BY:	LT
SCALE:	1:1200 @ A3	DATE:	19.02.2024

TITLE: **Proposed Test Location Plan (South)**
Carlingford West Public School and Cumberland High School
59-73 Felton Road and 183 Pennant Hills Road, Carlingford

N

PROJECT No:	86976.03
DRAWING No:	R.002.D.03
REVISION:	4

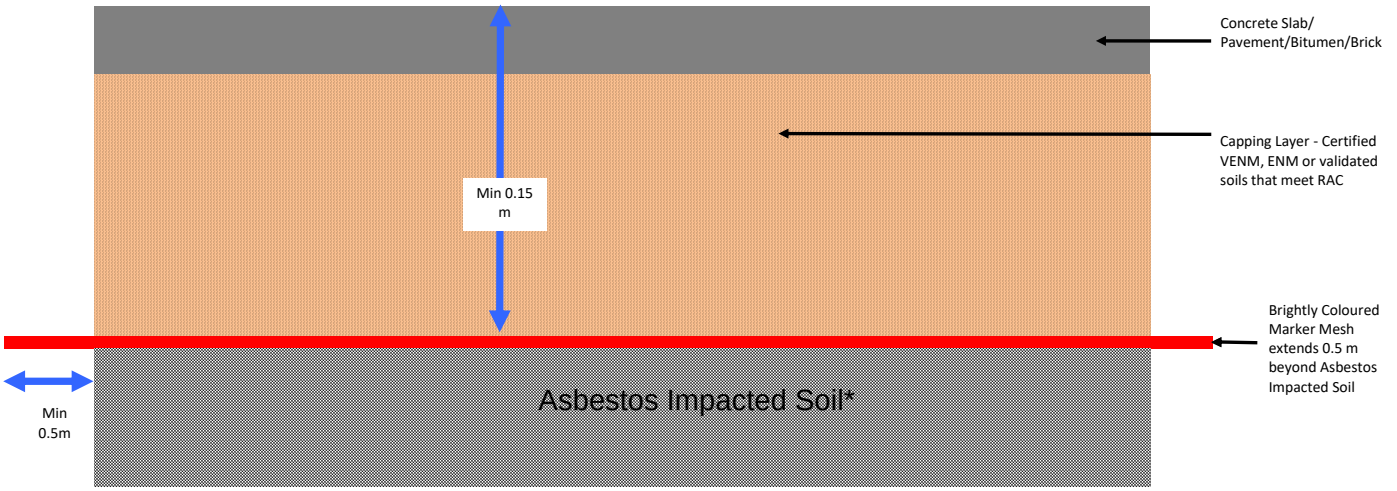


Figure 1. Capping beneath concrete hardstand/pavement

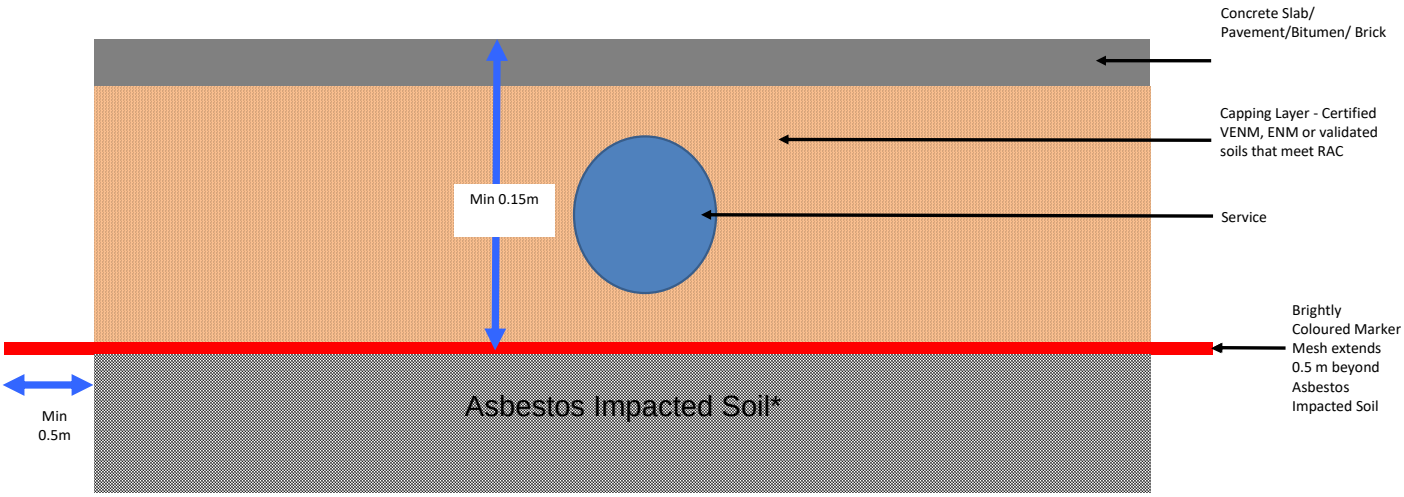


Figure 2. Service trench less than 0.15 m within capping layer beneath concrete hardstand/pavement areas

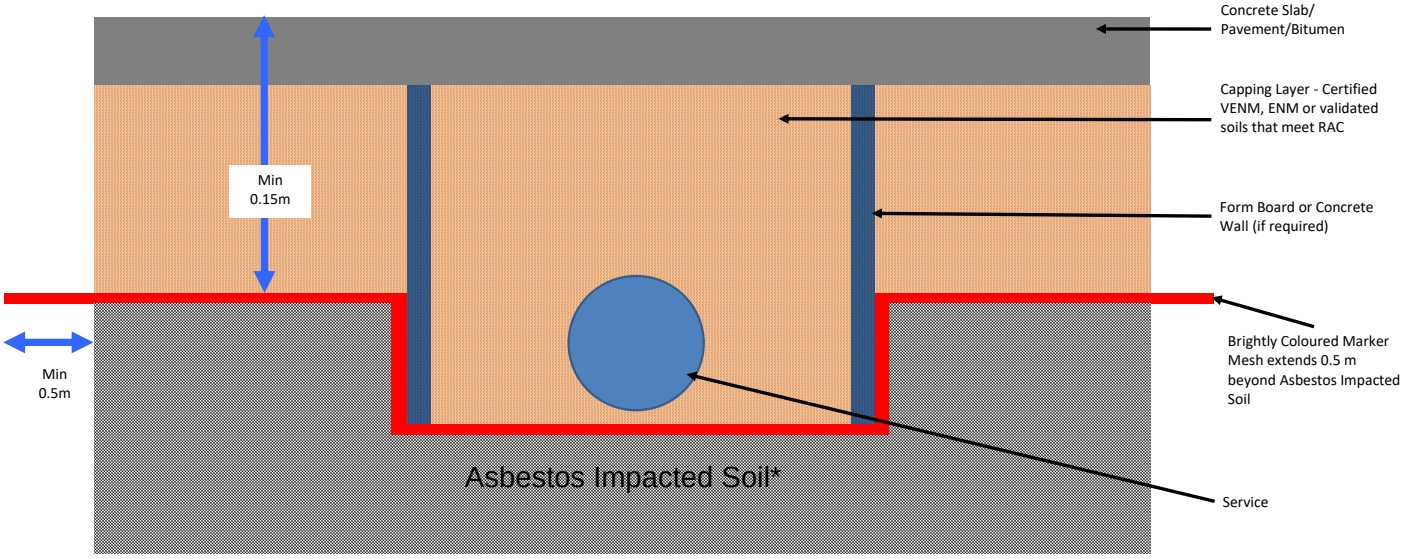


Figure 3. Service trench greater than 0.15 m beneath concrete hardstand/pavement areas

Note: Asbestos Impacted Soil refers to soils impacted by asbestos, noting that in some areas of the site, this may be under existing soils which are not impacted by asbestos

Douglas Partners Geotechnics / Environment / Groundwater	Taylor Construction Pty Ltd		**Examples of Capping Types - Beaneath Concrete/pavement/hardstand**	Project	86976.03
	OFFICE: Sydney	LT	Remediation Action Plan	Drawing No	R.002.D.04
	SCALE: NTS	DATE: July 2022	Cumberland Cluster, 59-73 Felton Road and 183 Pennant Hills Road, Carlingford	Revision:	0

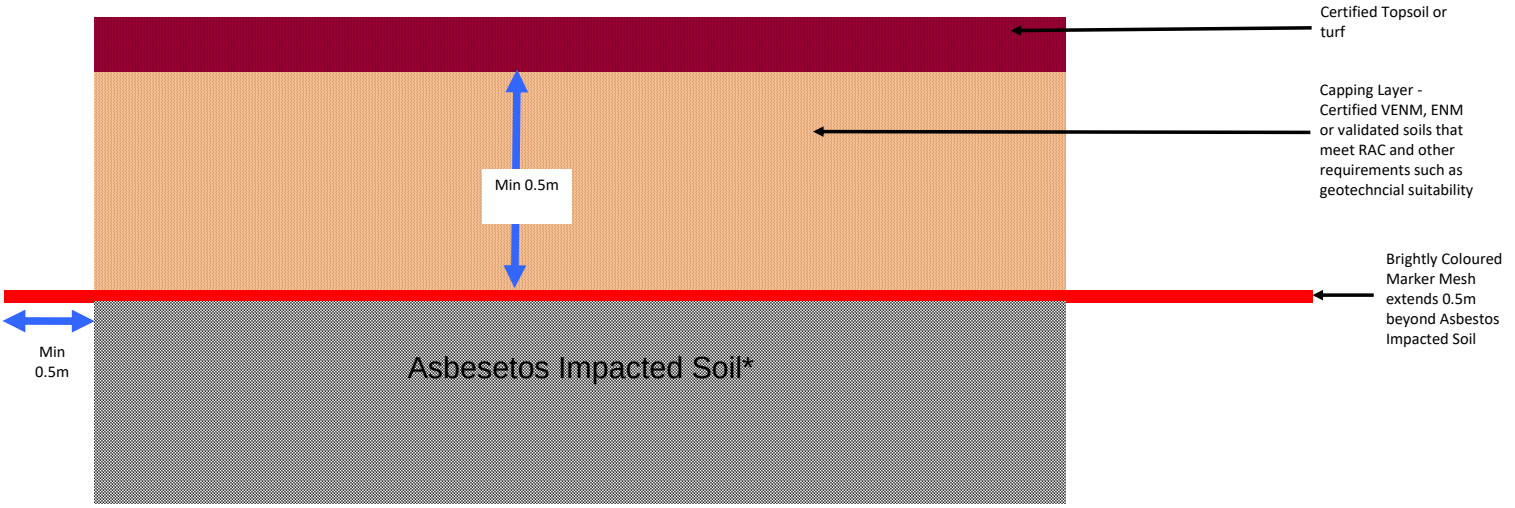


Figure 4. Capping beneath soil, turf or grass

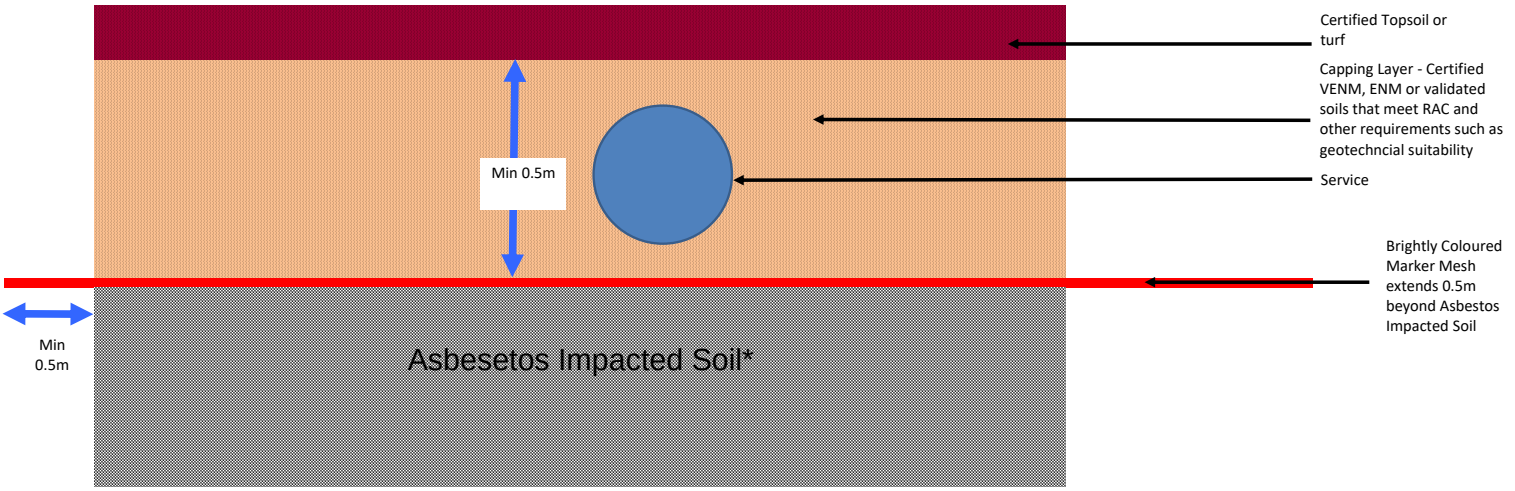


Figure 5. Service trench within capping layer beneath soil, turf or grassed areas

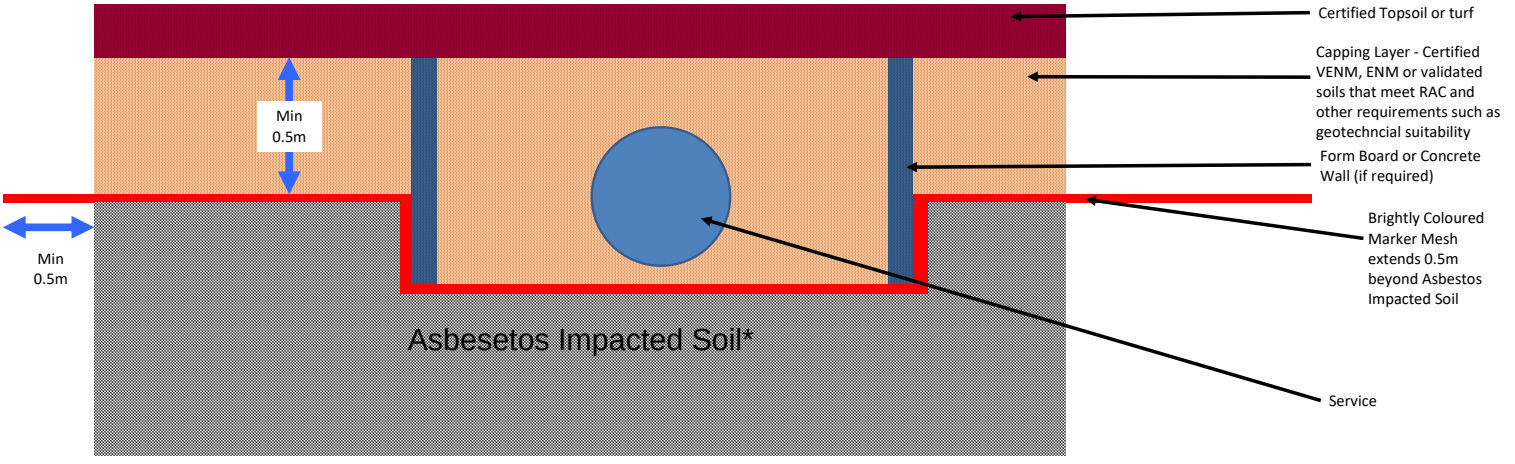
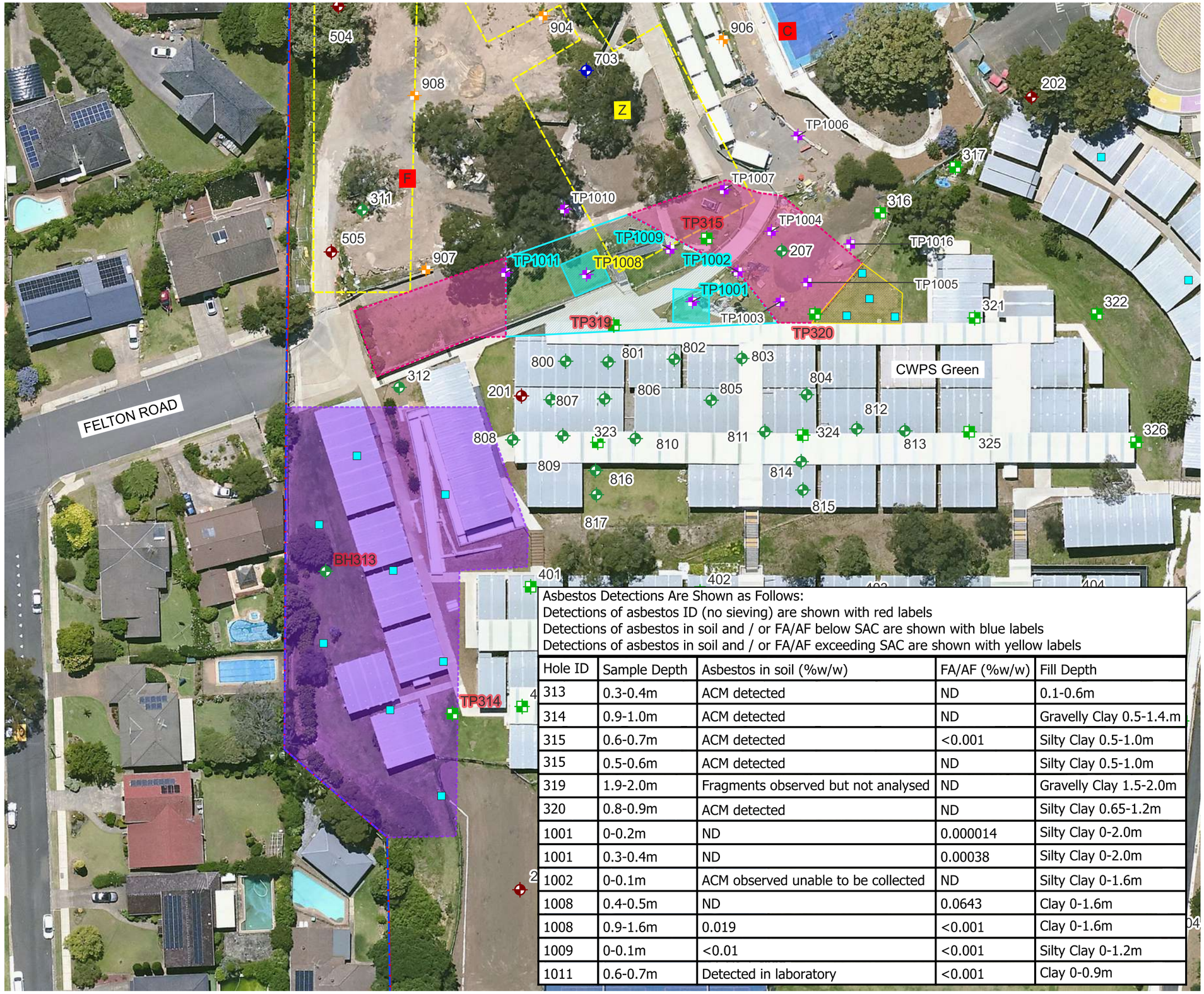


Figure 6. Service trench greater than 0.15 m capping layer beneath soil, turf or grassed areas

Note: Asbestos Impacted Soil refers to soils impacted by asbestos, noting that in some areas of the site, this may be under existing soils which are not impacted by asbestos

Douglas Partners Geotechnics / Environment / Groundwater	Taylor Construction Pty Ltd		Example Capping Types - Beaneath Soil, Turf or Grass	Project	86976.03
	OFFICE: Sydney	LT	Remediation Action Plan	Drawing No	R.002.D.05
	SCALE: NTS	DATE: July 2022	Cumberland Cluster, 59-73 Felton Road and 183 Pennant Hills Road, Carlingford	Revision:	1



Notes:
1. Drawing projection GDA94 / MGA zone 56
2. Latest available aerial imagery sourced from metromap.com dated 19.11.2023
3. Boundaries shown are approximate only

Legend

- Approximate School Site Boundary
- Proposed New Buildings and New Carparks
- Approximate SSD Site Boundary
- RA1 - Bonded Asbestos
- RA2 - Friable Asbestos Remediation Area
- RA3 - Stage 1 Milestone 2 Further Assessment Required
- RA4 - No development, further assessment required

Building Labels

- Proposed Demolition / Rennovation
- Proposed New Buildings
- Existing buildings - No Proposed Development

Previously Completed Test Locations

- Environmental Borehole Location
- Environmental Test Pit Location
- Combined Geotechnical and Environmental Borehole Location
- Combined Geotechnical and Environmental Borehole Location with Rock Coring
- Surface Sample
- Test Location DGA (DP2022a)
- Test Pit Location DGA2 (DP 2023a)
- Proposed Data Gap Test Location

10 0 10 20 m

Asbestos Detections Are Shown as Follows:
Detections of asbestos ID (no sieving) are shown with red labels
Detections of asbestos in soil and / or FA/AF below SAC are shown with blue labels
Detections of asbestos in soil and / or FA/AF exceeding SAC are shown with yellow labels

Hole ID	Sample Depth	Asbestos in soil (%w/w)	FA/AF (%w/w)	Fill Depth
313	0.3-0.4m	ACM detected	ND	0.1-0.6m
314	0.9-1.0m	ACM detected	ND	Gravelly Clay 0.5-1.4.m
315	0.6-0.7m	ACM detected	<0.001	Silty Clay 0.5-1.0m
315	0.5-0.6m	ACM detected	ND	Silty Clay 0.5-1.0m
319	1.9-2.0m	Fragments observed but not analysed	ND	Gravelly Clay 1.5-2.0m
320	0.8-0.9m	ACM detected	ND	Silty Clay 0.65-1.2m
1001	0-0.2m	ND	0.000014	Silty Clay 0-2.0m
1001	0.3-0.4m	ND	0.00038	Silty Clay 0-2.0m
1002	0-0.1m	ACM observed unable to be collected	ND	Silty Clay 0-1.6m
1008	0.4-0.5m	ND	0.0643	Clay 0-1.6m
1008	0.9-1.6m	0.019	<0.001	Clay 0-1.6m
1009	0-0.1m	<0.01	<0.001	Silty Clay 0-1.2m
1011	0.6-0.7m	Detected in laboratory	<0.001	Clay 0-0.9m

Douglas PARTNERS

CLIENT:	Roberts Co Pty Ltd		
OFFICE:	Sydney	DRAWN BY:	LT
SCALE:	1:700 @ A3	DATE:	20.02.2024

TITLE: **Remediation Areas and Previous Asbestos Detections and Exceedances**
Carlingford West Public School and Cumberland High School
59-73 Felton Road and 183 Pennant Hills Road, Carlingford

N

PROJECT No:	86976.06
DRAWING No:	R.002.D.6
REVISION:	0

Appendix C

Previous Results

Douglas Partners
Geotechnics | Environment | Groundwater

Table C1: Summary of Laboratory Results – Site Suitability Assessment

				Metals								TRH						BTEX				PAH				Phenol	
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Phenol [d]	DDT+DDE+DDD [c]
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05	5	0.1
Site Assessment Criteria - Commercial Land Use																											
HIL A				100	20	100	6,000	300	40	400	7,400													3	300	100	240
HSL A&B	0- <1m		(clay)											50	280			0.7	480	NL	110	5					
EIL/ ESL	0-<2m		(fine)	100		410	120	1,100		40	260			180	120	1,300	5,600	65	105	125	45	170	0.7				180 [c]
Management Limit			(fine)									800	1,000			3,500	10,000										
Direct Contact A												4,400	3,300			4,500	6,300	100	14,000	4,500	12,000	1,400				3,000	
Laboratory Results - DP 2020a																											
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BH101/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**6**	<0.4	**20**	**10**	**46**	<0.1	**3**	**13**	<25	<50	<25	<50	**180**	**100**	<0.2	<0.5	<1	<1	<1	**0.8**	**1.2**	**5.8**	-	-
BH102/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**4**	<0.4	**13**	**28**	**77**	**0.1**	**9**	**110**	<25	<50	<25	<50	**200**	**130**	<0.2	<0.5	<1	<1	<1	**0.06**	<0.5	**0.3**	<5	<0.1
BH102/1.0-1.45	1.0-1.45 m	Silty CLAY	20/01/2020	<4	<0.4	**5**	**6**	**13**	<0.1	<1	<1	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH103/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<4	<0.4	**13**	**12**	**22**	<0.1	**6**	**34**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.2**	<0.5	**2**	-	-
BD2/20200120	0.1-0.2 m	FILL	20/01/2020	<4	<0.4	**11**	**14**	**21**	<0.1	**6**	**38**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.07**	<0.5	**0.07**	-	-
BH104/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**4**	<0.4	**13**	**12**	**21**	<0.1	**5**	**28**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
BH104/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	<4	<0.4	**14**	**4**	**12**	<0.1	**2**	**3**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH105/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**6**	<0.4	**17**	**15**	**28**	<0.1	**4**	**17**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.3**	<0.5	**1.9**	<5	<0.1
BH106/0.25-0.3	0.25-0.3 m	Silty CLAY	20/01/2020	**6**	<0.4	**14**	**23**	**13**	<0.1	**14**	**41**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH107/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**5**	<0.4	**22**	**7**	**16**	<0.1	**2**	**6**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.06**	<0.5	**0.06**	-	-
BH108/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**6**	<0.4	**18**	**11**	**19**	<0.1	**4**	**14**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.2**	<0.5	**1.8**	-	-
BH109/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<4	<0.4	**11**	**30**	**12**	<0.1	**26**	**49**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.06**	<0.5	**0.06**	-	-
BH109/0.4-0.5	0.4-0.5 m	Silty CLAY	20/01/2020	**8**	<0.4	**17**	**24**	**17**	<0.1	**8**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH109/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	**7**	<0.4	**12**	**24**	**17**	<0.1	**3**	**19**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH110/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**5**	<0.4	**12**	**19**	**25**	<0.1	**7**	**99**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
BH110/0.9-1.0	0.9-1.0 m	FILL	20/01/2020	**7**	<0.4	**10**	**14**	**21**	<0.1	**1**	**10**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.09**	<0.5	**0.09**	-	-
Laboratory Results - DP 2020b																											
BH201/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**5**	<0.4	**10**	**11**	**16**	<0.1	**3**	**18**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH201/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	**4**	<0.4	**7**	**26**	**13**	<0.1	**2**	**6**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH201/1.9-2.0	1.9 - 2 m	FILL	21/01/2020	<4	<0.4	**6**	**25**	**14**	<0.1	**3**	**19**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH201/2.3-2.4	2.3 - 2.4 m	FILL	21/01/2020	**4**	<0.4	**12**	**34**	**18**	<0.1	**5**	**32**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH202/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**6**	<0.4	**18**	**23**	**48**	<0.1	**15**	**60**	<25	<50	<25	<50	**210**	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH203/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**5**	<0.4	**14**	**21**	**23**	<0.1	**8**	**37**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH203/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	<4	<0.4	**9**	**26**	**29**	<0.1	**4**	**26**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH203/4.3-4.5	4.3 - 4.5 m	CLAY	21/01/2020	**5**	<0.4	**20**	**12**	**19**	<0.1	**6**	**26**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH204/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**8**	<0.4	**8**	**31**	**19**	<0.1	**7**	**44**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH205/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**5**	<0.4	**20**	**15**	**33**	**0.1**	**6**	**41**	<25	<50	<25	<50	**120**	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH205/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**6**	<0.4	**27**	**8**	**20**	<0.1	**6**	**15**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH205/1.4-1.5	1.4 - 1.5 m	Silty CLAY	21/01/2020	**10**	<0.4	**19**	**7**	**18**	<0.1	**1**	**9**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH205/1.4-1.5 - [TRIPLICATE]	1.4 - 1.5 m	Silty CLAY	21/01/2020	**9**	<0.4	**20**	**8**	**19**	<0.1	**1**	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206/0.11-0.2	0.11 - 0.2 m	FILL	21/01/2020	**9**	<0.4	**6**	**27**	**13**	<0.1	**2**	**22**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
BH206/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	**4**	<0.4	**4**	**24**	**13**	<0.1	**2**	**21**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH207/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**7**	<0.4	**13**	**22**	**28**	<0.1	**6**	**31**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	NT	NT
BD3/20200121	0.4 - 0.5 m	FILL	21/01/2020	**7**	<0.4	**15**	**13**	**23**	<0.1	**8**	**21**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	NT	NT
BH208/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**6**	<0.4	**18**	**58**	**39**	<0.1	**5**	**79**	<25	<50	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	**1.4**	**2.2**	**21**	<5	<0.1
BH209/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**8**	<0.4	**6**	**15**	**11**	<0.1	<1	**4**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH210/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**10**	<0.4	**10**	**17**	**24**	<0.1	**1**	**22**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
Laboratory Results - Current Investigation (DSI)																											
301	0.1 - 0.2 m	FILL	01/05/2021	**7**	<0.4	**28**	**11**	**24**	<0.1	**5**	**18**	<25	<50	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	<1	**0.07**	<0.5	**0.07**	<5	<0.1
302	0.4 - 0.5 m	FILL	01/05/2021	**8**	<0.4	**27**	**13**	**25**	<0.1	**4**	**37**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
302	0.7 - 0.8 m	Silty CLAY	01/05/2021	**9**	<0.4	**28**	**16**	**20**	<0.1	**2**	**5**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
303	0.1 - 0.2 m	FILL	01/05/2021	**5**	<0.4	**18**	**13**	**32**	<0.1	**6**	**27**	<25	<50	<25	<50	**160**	<100	<0.2	<0.5	<1	<1	<1	**0.2**	<0.5	**1.6**	-	-
304	0.1 - 0.2 m	FILL	01/05/2021	**9**	<0.4	**23**	**17**	**23**	<0.1	**3**	**14**	<25	<50	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	**0.05**	<0.5	**0.05**	-	-
305	0.1 - 0.2 m	FILL	01/05/2021	**6**	<0.4	**20**	**17**	**40**	<0.1	**6**	**50**	<25	<50	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	**0.4**	**0.5**	**3.2**	-	-
306	0.1 - 0.2 m	FILL	01/05/2021	**4**	<0.4	**14**	**19**	**79**	<0.1	**6**	**100**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.1**	<0.5	**1**	-	-
307	0.1 - 0.2 m	FILL	01/05/2021	**7**	<0.4	**19**	**23**	**33**	<0.1	**9**	**46**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.1**	<0.5	**1**	-	-
308	0.1 - 0.2 m	FILL	01/05/2021	**6**	<0.4	**20**	**19**	**27**	<0.1	**6**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.09**	<0.5	**0.5**	-	-
309	0.2 - 0.3 m	FILL	01/05/2021	**9**	<0.4	**19**	**18**	**47**	<0.1	**7**	**46**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.2**	<0.5	**2.3**	<5	<0.1
309	1 - 1.1 m	Silty CLAY	01/05/2021	**5**	<0.4	**8**	**19**	**34**	<0.1	**2**	**10**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BD9/20210501	1-1.1 m	Silty CLAY	01/05/2021	<5	<1	**5**	**13**	**28**	<0.1	**<2**	**<5**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-
310	0.2 - 0.3 m	FILL	01/05/2021	**5**	<0.4	**15**	**8**	**72**	<0.1	**4**	**43**	<25	<50	<25	<50	**170**	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
310 - [TRIPLICATE]	0.2 - 0.3 m	-	01/05/2021	**6**	<0.4	**14**	**11**	**28**	<0.1	**6**	**68**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
310	0.8 - 0.9 m	Silty CLAY	01/05/2021	**5**	<0.4	**18**	**6**	**14**	<0.1	**2**	**10**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
311	0.4 - 0.5 m	FILL	01/05/2021	**7**	<0.4	**15**	**9**	**14**	<0.1	**3**	**23**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
312	0.7 - 0.8 m	FILL	01/05/2021	<4	<0.4	**6**	**22**	**20**	<0.1	**5**	**20**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
312	1.3 - 1.4 m	FILL	01/05/2021	**7**	<0.4	**17**	**22**	**20**	<0.1	**1**	**8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
313	0.1 - 0.2 m	FILL	01/05/2021	**5**	<0.4	**12**	**12**	**16**	<0.1	**4**	**23**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
BD4/20210501	0.1-0.2	FILL	01/05/2021	<5	<1	**10**	**11**	**16**	<0.1	**5**	**23**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	-	-
313	0.9 - 1 m	FILL	01/05/2021	**5**	<0.4	**18**	**8**	**18**	<0.1	**6**	**19**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
314	0.4 - 0.5 m	FILL	01/05/2021	**5**	<0.4	**13**	**22**	**12**	<0.1	**12**	**36**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
314	1.3 - 1.4 m	FILL	01/05/2021	**5**	**0.5**	**27**	**45**	**49**	<0.1	**21**	**92**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
314	1.9 - 2 m	Silty Gravelly CLAY	01/05/2021	**8**	<0.4	**10**	**32**	**19**	<0.1	**6**	**39**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
315	0 - 0.1 m	FILL	01/05/2021	**4**	<0.4	**12**	**15**	**26**	<0.1	**7**	**60**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
315	0.6 - 0.7 m	FILL	01/05/2021	**5**	<0.4	**15**	**24**	**31**	<0.1	**9**	**59**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
316	0.4 - 0.5 m	FILL	01/05/2021	<4	<0.4	**8**	**9**	**11**	<0.1	**7**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
317	0 - 0.1 m	FILL	01/05/2021	**16**	<0.4	**15**	**24**	**48**	<0.1	**10**	**74**	<25	<50	<25	<50	**190**	**110**	<0.2	<0.5	<1	<1	<1	**0.05**	<0.5	**0.2**	-	-
318	0 - 0.1 m	FILL	01/05/2021	**4**	<0.4	**9**	**20**	**36**	<0.1	**5**	**54**	<25	<50	<25	<50	**120**	**100**	<0.2	<0.5	<1	<1	<1	**0.07**	<0.5	**0.3**	-	-
319	0.2 - 0.3 m	FILL	01/05/2021	**5**	<0.4	**12**	**15**	**26**	<0.1	**5**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
319	0.4 - 0.5 m	FILL	01/05/2021	**9**	<0.4	**26**	**15**	**23**	<0.1	**5**	**32**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BD7/20210501	0.4 - 0.5 m	FILL	01/05/2021	**8**	<0.4	**21**	**12**	**20**	<0.1	**3**	**14**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
319	1.3 - 1.4 m	FILL	01/05/2021	<4	<0.4	**8**	**23**	**13**	<0.1	**2**	**12**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-

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Table C1: Summary of Laboratory Results – Site Suitability Assessment

				Metals								TRH						BTEX				PAH				Phenol	
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Phenol [d]	DDT+DDE+DDD [c]
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05	5	0.1
Site Assessment Criteria - Commercial Land Use																											
HIL A				100	20	100	6,000	300	40	400	7,400													3	300	100	240
HSL A&B	0- <1m		(clay)											50	280			0.7	480	NL	110	5					
EIL/ ESL	0-<2m		(fine)	100		410	120	1,100		40	260			180	120	1,300	5,600	65	105	125	45	170	0.7				180 [c]
Management Limit			(fine)									800	1,000			3,500	10,000										
Direct Contact A												4,400	3,300			4,500	6,300	100	14,000	4,500	12,000	1,400				3,000	
319	1.9 - 2 m	FILL	01/05/2021	**6**	<0.4	**15**	**17**	**62**	**0.4**	**3**	**30**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
319	2.4 - 2.5 m	Silty CLAY	01/05/2021	**11**	<0.4	**14**	**14**	**35**	<0.1	**4**	**38**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
BD8/20210501	2.4 - 2.5 m	Silty CLAY	01/05/2021	**7**	<0.4	**18**	**24**	**83**	<0.1	**5**	**160**	<25	<50	<25	<50	**150**	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
319 - [TRIPLICATE]	2.4 - 2.5 m	-	01/05/2021	**4**	<0.4	**10**	**15**	**28**	<0.1	**4**	**33**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320	0.4 - 0.5 m	FILL	01/05/2021	**9**	<0.4	**24**	**22**	**35**	<0.1	**110**	**48**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
320	0.9 - 1 m	FILL	01/05/2021	**7**	<0.4	**14**	**17**	**21**	<0.1	**11**	**24**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
321	0.4 - 0.5 m	FILL	01/05/2021	**9**	<0.4	**14**	**21**	**23**	<0.1	**8**	**42**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
322	0 - 0.1 m	FILL	01/05/2021	<4	<0.4	**25**	**25**	**48**	<0.1	**28**	**93**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
323	0.9 - 1 m	FILL	01/05/2021	<4	<0.4	**17**	**26**	**13**	<0.1	**16**	**28**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
323	1.9 - 2 m	FILL	01/05/2021	**6**	<0.4	**14**	**18**	**62**	<0.1	**6**	**33**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
323 - [TRIPLICATE]	1.9 - 2 m	-	01/05/2021	**7**	<0.4	**20**	**23**	**45**	<0.1	**7**	**38**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
323	2.4 - 2.5 m	FILL	01/05/2021	**6**	<0.4	**10**	**28**	**23**	<0.1	**8**	**48**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
324	0.9 - 1 m	FILL	01/05/2021	**8**	<0.4	**15**	**13**	**22**	<0.1	**2**	**8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
324	1.1 - 1.2 m	FILL	01/05/2021	**8**	<0.4	**12**	**18**	**29**	<0.1	**5**	**33**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.07**	<0.5	**0.82**	<5	<0.1
235	0.4 - 0.5 m	FILL	01/05/2021	**5**	<0.4	**14**	**20**	**38**	<0.1	**7**	**45**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
326	0 - 0.1 m	FILL	01/05/2021	<4	<0.4	**7**	**15**	**18**	<0.1	**7**	**45**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
326	0.3 - 0.4 m	SILTSTONE	01/05/2021	<4	<0.4	**4**	**16**	**14**	**0.1**	**3**	**22**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
314-A1	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
315-A4	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320-A7	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
313-A9	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP401	0.4 - 0.5 m	FILL	28/06/2021	**4**	<0.4	**10**	**33**	**23**	<0.1	**5**	**46**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP401	0.9 - 1 m	FILL	28/06/2021	**5**	<0.4	**11**	**6**	**11**	<0.1	**2**	**10**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
BD1/20210628	0.9 - 1 m	FILL	28/06/2021	**5**	<0.4	**4**	**17**	**9**	<0.1	**2**	**17**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP401	1.9 - 2 m	Silty CLAY	28/06/2021	**6**	<0.4	**18**	**5**	**11**	<0.1	**1**	**3**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP402	0 - 0.1 m	FILL	28/06/2021	**5**	<0.4	**12**	**15**	**19**	<0.1	**8**	**72**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP402	0.4 - 0.5 m	FILL	28/06/2021	**5**	<0.4	**9**	**17**	**14**	<0.1	**2**	**18**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP402	1 - 1.1 m	FILL	28/06/2021	**14**	<0.4	**8**	**18**	**18**	<0.1	**3**	**17**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BD2/20210628	1 - 1.1 m	FILL	28/06/2021	**4**	<0.4	**3**	**13**	**11**	<0.1	**1**	**16**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP403	0.4 - 0.5 m	FILL	28/06/2021	**8**	<0.4	**17**	**53**	**34**	<0.1	**5**	**58**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.1**	**1.6**	**13**	-	-
TP403 - [TRIPLICATE]	0.4 - 0.5 m	FILL	28/06/2021	**7**	<0.4	**18**	**80**	**43**	<0.1	**5**	**71**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP403	0.9 - 1 m	Silty CLAY	28/06/2021	**7**	<0.4	**4**	**14**	**15**	<0.1	<1	**6**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP404	0.4 - 0.5 m	FILL	28/06/2021	**7**	<0.4	**5**	**20**	**27**	**0.2**	**24**	**150**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP404	0.9 - 1 m	Gravelly CLAY	28/06/2021	**6**	<0.4	**4**	**24**	**17**	<0.1	**38**	**160**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP405	0 - 0.1 m	FILL	28/06/2021	**9**	<0.4	**14**	**21**	**21**	<0.1	**7**	**42**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP406	0.1 - 0.2 m	FILL	28/06/2021	**7**	<0.4	**10**	**11**	**21**	<0.1	**7**	**40**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP406	0.2 - 0.3 m	FILL	28/06/2021	<4	<0.4	**4**	**13**	**15**	<0.1	**2**	**16**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP407	0.1 - 0.2 m	FILL	28/06/2021	**4**	<0.4	**13**	**13**	**21**	<0.1	**7**	**35**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP408	0.1 - 0.2 m	FILL	28/06/2021	**5**	<0.4	**15**	**11**	**16**	<0.1	**10**	**41**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP409	0.1 - 0.2 m	FILL	28/06/2021	**5**	<0.4	**15**	**14**	**22**	<0.1	**9**	**37**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP411	0.1 - 0.2 m	FILL	28/06/2021	**7**	<0.4	**19**	**17**	**30**	<0.1	**7**	**40**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP412	0 - 0.1 m	FILL	28/06/2021	**6**	<0.4	**17**	**14**	**25**	<0.1	**6**	**29**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP413	0.4 - 0.5 m	FILL	28/06/2021	**6**	<0.4	**17**	**16**	**30**	<0.1	**5**	**48**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.3**	<0.5	**3.2**	<5	<0.1
TP413	1.1 - 1.2 m	FILL	28/06/2021	**5**	<0.4	**13**	**15**	**38**	<0.1	**4**	**28**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.05**	<0.5	**0.05**	-	-
BD3/20210628	1.1 - 1.2 m	FILL	28/06/2021	<4	<0.4	**9**	**30**	**14**	<0.1	**6**	**25**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.05**	<0.5	**0.05**	-	-
TP413	1.9 - 2 m	Silty CLAY	28/06/2021	**8**	<0.4	**18**	**12**	**17**	<0.1	**3**	**16**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP414	0.2 - 0.3 m	FILL	28/06/2021	**6**	<0.4	**14**	**17**	**27**	<0.1	**6**	**31**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.1**	<0.5	**1.6**	-	-
TP415	0 - 0.1 m	FILL	28/06/2021	<4	<0.4	**7**	**8**	**14**	<0.1	**4**	**28**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP416	0.4 - 0.5 m	FILL	28/06/2021	**10**	<0.4	**21**	**21**	**29**	<0.1	**5**	**46**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.96**	**1.4**	**12**	-	-
TP416	0.9 - 1 m	Gravelly CLAY	28/06/2021	<4	<0.4	**1**	**12**	**10**	<0.1	<1	**11**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
TP417	0.4 - 0.5 m	FILL	28/06/2021	**7**	<0.4	**12**	**20**	**34**	<0.1	**15**	**57**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
TP417	1.4 - 1.5 m	FILL	28/06/2021	<4	<0.4	**12**	**1**	**8**	<0.1	<1	**2**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BH501	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**17**	**7**	**19**	<0.1	**3**	**46**	<25	**86**	<25	**86**	**260**	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1
BH502	0.5 - 0.6 m	Silty CLAY	2/12/2021	**6**	<0.4	**24**	**5**	**17**	<0.1	**2**	**8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1
BH503	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**14**	**9**	**20**	<0.1	**4**	**35**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BH504	0.5 - 0.6 m	FILL	2/12/2021	**4**	<0.4	**15**	**8**	**20**	<0.1	**5**	**31**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BH504	1 - 1.1 m	Silty CLAY	2/12/2021	<4	<0.4	**15**	**8**	**12**	<0.1	**3**	**19**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BH505	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**10**	**20**	**16**	<0.1	**5**	**44**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BD2/20211202	0 - 0.1 m	FILL	2/12/2021	**4**	<0.4	**10**	**14**	**14**	<0.1	**4**	**36**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
508	0.15 - 0.35 m	FILL	22/12/2021	**6**	<0.4	**13**	**26**	**26**	<0.1	**6**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
601	0 - 0.1 m	FILL	2/12/2021	**4**	<0.4	**12**	**23**	**36**	**0.2**	**7**	**58**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
602	0.5 - 0.6 m	Silty CLAY	2/12/2021	**6**	<0.4	**10**	**23**	**14**	<0.1	**8**	**50**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
603	0.5 - 0.6 m	Silty CLAY	2/12/2021	**7**	<0.4	**14**	**24**	**20**	<0.1	**3**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
604	0 - 0.1 m	FILL	2/12/2021	**7**	<0.4	**13**	**23**	**57**	**0.1**	**5**	**110**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.07**	<0.5	**0.4**	-	-
605	0.5 - 0.6 m	FILL	2/12/2021	<4	<0.4	**14**	**10**	**25**	<0.1	**5**	**28**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
606	0.5 - 0.6 m	FILL	2/12/2021	**5**	<0.4	**14**	**15**	**18**	<0.1	**2**	**13**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
606	1 - 1.1 m	FILL	2/12/2021	**4**	<0.4	**13**	**14**	**19**	<0.1	**1**	**5**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
607	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**15**	**10**	**31**	**0.1**	**5**	**33**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
608	0.5 - 0.6 m	FILL	2/12/2021	**6**	<0.4	**16**	**18**	**41**	<0.1	**7**	**70**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
609	1 - 1.1 m	Silty CLAY	2/12/2021	**8**	<0.4	**10**	**13**	**18**	<0.1	**1**	**11**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
610	0.5 - 0.6 m	Silty CLAY	2/12/2021	**4**	<0.4	**17**	**10**	**15**	<0.1	**1**	**3**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	NT	NT
BD3/20211202	0.5 - 0.6 m	Silty CLAY	2/12/2021	**5**	<0.4	**10**	**18**	**46**	<0.1	**4**	**91**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	**0.3**	-	NT
611	0 - 0.1 m	FILL	2/12/2021	**7**	<0.4	**6**	**9**	**21**	<0.1	**2**	**89**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.09**	<0.5	**1.8**	<5	<0.1
611	0.5 - 0.6 m	FILL	2/12/2021	**7**	<0.4	**15**	**13**	**120**	<0.1	**3**	**20**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.2**	<0.5	**2.3**	-	-

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Table C1: Summary of Laboratory Results – Site Suitability Assessment

				Metals								TRH						BTEX				PAH				Phenol	
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Phenol [d]	DDT+DDE+DDD [c]
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	1	0.05	0.5	0.05	5	0.1
Site Assessment Criteria - Commercial Land Use																											
HIL A				100	20	100	6,000	300	40	400	7,400													3	300	100	240
HSL A&B	0- <1m		(clay)											50	280			0.7	480	NL	110	5					
EIL/ ESL	0-<2m		(fine)	100		410	120	1,100		40	260			180	120	1,300	5,600	65	105	125	45	170	0.7				180 [c]
Management Limit			(fine)									800	1,000			3,500	10,000										
Direct Contact A												4,400	3,300			4,500	6,300	100	14,000	4,500	12,000	1,400				3,000	
612	0.5 - 0.7 m	FILL	22/12/2021	<4	<0.4	**13**	**170**	**38**	<0.1	**5**	**78**	<25	<50	<25	<50	**160**	<100	<0.2	<0.5	<1	<1	**0.2**	<0.05	<0.5	**0.68**	-	-
612 - [TRIPLICATE]	0.5 - 0.7 m	FILL	22/12/2021	**5**	<0.4	**15**	**34**	**32**	<0.1	**5**	**37**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
612	1 - 1.2 m	FILL	22/12/2021	**8**	<0.4	**29**	**27**	**24**	<0.1	**9**	**22**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
612	1.6 - 1.8 m	CLAY	22/12/2021	<4	<0.4	**8**	**9**	**15**	<0.1	<1	**1**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
616	0.5 - 0.7 m	FILL	22/12/2021	**9**	<0.4	**18**	**21**	**19**	<0.1	**4**	**15**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
619	0.8 - 1 m	FILL	22/12/2021	**5**	<0.4	**15**	**28**	**22**	<0.1	**6**	**55**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1
BD4/20211220	0.8 - 1 m	FILL	22/12/2021	**7**	<1	**23**	**18**	**21**	<0.1	**16**	**34**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	**<1**	<0.05
620	0.8 - 1 m	FILL	22/12/2021	**9**	<0.4	**26**	**15**	**49**	<0.1	**5**	**37**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.2**	<0.05	<0.5	**0.2**	-	-
620	1.3 - 1.5 m	FILL	22/12/2021	**10**	<0.4	**19**	**16**	**24**	<0.1	**5**	**23**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.2**	<0.5	**1.6**	-	-
620	2.3 - 2.5 m	CLAY	22/12/2021	**6**	<0.4	**22**	**11**	**19**	<0.1	**5**	**12**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
621	0.1 - 0.3 m	FILL	22/12/2021	**7**	<0.4	**14**	**17**	**23**	<0.1	**6**	**46**	<25	<50	<25	<50	**120**	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
622	0.1 - 0.3 m	FILL	22/12/2021	**10**	<0.4	**17**	**29**	**33**	<0.1	**3**	**55**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
622	1.2 - 1.4 m	FILL	22/12/2021	<4	<0.4	**4**	**38**	**4**	<0.1	**35**	**20**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
622	0.2 - 0.4 m	FILL	22/12/2021	**7**	<0.4	**9**	**19**	**16**	<0.1	**3**	**17**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
623	0.8 - 1 m	FILL	22/12/2021	**7**	<0.4	**9**	**16**	**19**	<0.1	**2**	**16**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BH701	0.1 - 0.2 m	FILL	02/12/2021	**4**	<0.4	**11**	**14**	**30**	<0.1	**5**	**47**	<25	<50	<25	<50	**190**	<100	<0.2	<0.5	<1	<1	<0.1	**0.2**	<0.5	**0.96**	-	-
BH701	0.5 - 0.6 m	FILL	02/12/2021	**9**	<0.4	**15**	**12**	**16**	<0.1	**1**	**3**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.07**	<0.5	**0.3**	-	-
BH701	0.9 - 1 m	Silty CLAY	02/12/2021	**5**	<0.4	**6**	**16**	**27**	<0.1	<1	**2**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BH702	0.1 - 0.2 m	FILL	02/12/2021	<4	<0.4	**14**	**15**	**27**	<0.1	**8**	**39**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.1**	<0.5	**0.3**	-	-
BH702	0.5 - 0.6 m	FILL	02/12/2021	<4	<0.4	**8**	**22**	**8**	<0.1	**22**	**20**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BH702	1 - 1.1 m	FILL	02/12/2021	<4	<0.4	**5**	**20**	**4**	<0.1	**18**	**17**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1
BH702	1.4 - 1.5 m	Sandy CLAY	02/12/2021	<4	<0.4	**9**	**21**	**11**	<0.1	**17**	**49**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
BD211221NB	0.5 - 0.6 m	FILL	02/12/2021	<5	<1	**12**	**24**	**16**	<0.1	**13**	**29**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	**-**	**-**
703	0.1 - 0.3 m	FILL	22/12/2021	<4	<0.4	**8**	**12**	**14**	<0.1	**6**	**35**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1
703	0.5 - 0.7 m	FILL	22/12/2021	**6**	<0.4	**14**	**15**	**19**	<0.1	**5**	**14**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
704	0.1 - 0.3 m	FILL	22/12/2021	**5**	<0.4	**21**	**17**	**22**	<0.1	**13**	**55**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.05**	<0.5	**0.2**	<5	<0.1
705	0.8 - 1 m	FILL	22/12/2021	**4**	<0.4	**18**	**17**	**26**	<0.1	**4**	**12**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
705	1.8 - 2 m	CLAY	22/12/2021	**6**	<0.4	**8**	**23**	**12**	<0.1	**2**	**11**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
706	0.2 - 0.4 m	FILL	22/12/2021	**6**	<0.4	**14**	**21**	**23**	<0.1	**6**	**36**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.2**	<0.5	**1.6**	-	-
706	0.8 - 1 m	FILL	22/12/2021	**5**	<0.4	**19**	**17**	**22**	<0.1	**7**	**12**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.1**	<0.5	**1.2**	-	-
706	2 - 2.2 m	Silty SAND	22/12/2021	**5**	<0.4	**6**	**31**	**13**	<0.1	**4**	**17**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-
SS1	0 m	FILL	22/12/2021	**7**	<0.4	**6**	**16**	**27**	<0.1	**1**	**64**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1
SS1 - [TRIPLICATE]	0 m	FILL	22/12/2021	**23**	<0.4	**7**	**17**	**26**	<0.1	<1	**35**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
EWTP1	0 - 0.1 m	Fill	1/07/2021	<4	<0.4	**9**	**10**	**20**	<0.1	**7**	**33**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
BD1/20210701	0 - 0.1 m	Fill	1/07/2021	**6**	<0.4	**10**	**12**	**13**	<0.1	**6**	**20**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
EWTP2	0.4 - 0.5 m	Natural	1/07/2021	<4	<0.4	**18**	**9**	**16**	<0.1	**3**	**7**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
EWTP3	0 - 0.1 m	Fill	1/07/2021	<4	<0.4	**10**	**16**	**22**	<0.1	**5**	**38**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-
EWTP3	0.3 - 0.4 m	Fill	1/07/2021	<4	<0.4	**12**	**9**	**23**	<0.1	**3**	**23**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**0.1**	<0.5	**0.67**	<5	<0.1
EWTP4	0 - 0.1 m	Fill	1/07/2021	**10**	<0.4	**6**	**11**	**13**	<0.1	**5**	**28**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	<5	<0.1
EWTP4	0.5 - 0.6 m	Fill	1/07/2021	**9**	<0.4	**19**	**7**	**11**	<0.1	**4**	**7**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	<0.05	<0.5	<0.05	-	-

Indicates that asbestos has been detected by the lab, refer to the lab report

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Ecological criteria applies to DDT only

d Criteria for pentachlorophenol used as an initial screen

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Residential A with garden/accessible soil

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Table C1: Summary of Laboratory Results – Site Suitability Assessment

				OCP							OPP	PCB	Asbestos					
				Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil (500ml sample) <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos ID in material
			PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			g	g	<0.001	<0.001
Site Assessment Criteria - Commercial Land Use																		
HIL A				6	50	270	10	6	10	300	160	1	0.01				0.001	
HSL A&B	0- <1m		(clay)															
EIL/ ESL	0-<2m		(fine)															
Management Limit			(fine)															
Direct Contact A																		
Laboratory Results - DP 2020a																		
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	g	g	%(w/w)	-
BH101/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH102/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
BH102/1.0-1.45	1.0-1.45 m	Silty CLAY	20/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH103/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BD2/20200120	0.1-0.2 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH104/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
BH104/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH105/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
BH106/0.25-0.3	0.25-0.3 m	Silty CLAY	20/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH107/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH108/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH109/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH109/0.4-0.5	0.4-0.5 m	Silty CLAY	20/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH109/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH110/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
BH110/0.9-1.0	0.9-1.0 m	FILL	20/01/2020	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
Laboratory Results - DP 2020b																		
BH201/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH201/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH201/1.9-2.0	1.9 - 2 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH201/2.3-2.4	2.3 - 2.4 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH202/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH203/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH203/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH203/4.3-4.5	4.3 - 4.5 m	CLAY	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH204/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH205/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH205/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH205/1.4-1.5	1.4 - 1.5 m	Silty CLAY	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH205/1.4-1.5 - [TRIPLICATE]	1.4 - 1.5 m	Silty CLAY	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206/0.11-0.2	0.11 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-
BH206/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH207/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	-	-	-	-	-	-
BD3/20200121	0.4 - 0.5 m	FILL	21/01/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	-	-	-	-	-	-
BH208/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-
BH209/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH210/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-
Laboratory Results - Current Investigation (DSI)																		
301	0.1 - 0.2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
302	0.4 - 0.5 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
302	0.7 - 0.8 m	Silty CLAY	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
303	0.1 - 0.2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
304	0.1 - 0.2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
305	0.1 - 0.2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
306	0.1 - 0.2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
307	0.1 - 0.2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
308	0.1 - 0.2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
309	0.2 - 0.3 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
309	1 - 1.1 m	Silty CLAY	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD9/20210501	1-1.1 m	Silty CLAY	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
310	0.2 - 0.3 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
310 - [TRIPLICATE]	0.2 - 0.3 m	-	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
310	0.8 - 0.9 m	Silty CLAY	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
311	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
312	0.7 - 0.8 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
312	1.3 - 1.4 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
313	0.1 - 0.2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	NAD	NAD	NAD	-	NAD
BD4/20210501	0.1-0.2	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
313	0.9 - 1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
314	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
314	1.3 - 1.4 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	NAD	NAD	NAD	-	NAD
314	1.9 - 2 m	Silty Gravelly CLAY	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
315	0 - 0.1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
315	0.6 - 0.7 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	**Chrysotile**	**0.0817**	NT	**<0.001**	**AD**
316	0.4 - 0.5 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
317	0 - 0.1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
318	0 - 0.1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
319	0.2 - 0.3 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
319	0.4 - 0.5 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BD7/20210501	0.4 - 0.5 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
319	1.3 - 1.4 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table C1: Summary of Laboratory Results – Site Suitability Assessment

				OCP							OPP	PCB	Asbestos					
				Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil (500ml sample) <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos ID in material
			PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			g	g	<0.001	<0.001
Site Assessment Criteria - Commercial Land Use																		
HIL A				6	50	270	10	6	10	300	160	1	0.01				0.001	
HSL A&B	0- <1m		(clay)															
EIL/ ESL	0-<2m		(fine)															
Management Limit			(fine)															
Direct Contact A																		
319	1.9 - 2 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
319	2.4 - 2.5 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
BD8/20210501	2.4 - 2.5 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-
319 - [TRIPLICATE]	2.4 - 2.5 m	-	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320	0.4 - 0.5 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
320	0.9 - 1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	NAD	NAD	NAD	-	NAD
321	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
322	0 - 0.1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
323	0.9 - 1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
323	1.9 - 2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
323 - [TRIPLICATE]	1.9 - 2 m	-	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
323	2.4 - 2.5 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
324	0.9 - 1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
324	1.1 - 1.2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
235	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
326	0 - 0.1 m	FILL	01/05/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
326	0.3 - 0.4 m	SILTSTONE	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
314-A1	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	**Chysotile**	-	-	-	-	-
315-A4	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	**Chysotile**	-	-	-	-	-
320-A7	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	**Chysotile**	-	-	-	-	-
313-A9	0 m	Material	01/05/2021	-	-	-	-	-	-	-	-	-	**Chysotile**	-	-	-	-	-
TP401	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP401	0.9 - 1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	NAD	NAD	NAD	-	NAD
BD1/20210628	0.9 - 1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP401	1.9 - 2 m	Silty CLAY	28/06/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP402	0 - 0.1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP402	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP402	1 - 1.1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BD2/20210628	1 - 1.1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP403	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP403 - [TRIPLICATE]	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP403	0.9 - 1 m	Silty CLAY	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP404	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP404	0.9 - 1 m	Gravelly CLAY	28/06/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP405	0 - 0.1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP406	0.1 - 0.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP406	0.2 - 0.3 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP407	0.1 - 0.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP408	0.1 - 0.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP409	0.1 - 0.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP411	0.1 - 0.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP412	0 - 0.1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP413	0.4 - 0.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
TP413	1.1 - 1.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BD3/20210628	1.1 - 1.2 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP413	1.9 - 2 m	Silty CLAY	28/06/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP414	0.2 - 0.3 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP415	0 - 0.1 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP416	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
TP416	0.9 - 1 m	Gravelly CLAY	28/06/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP417	0.4 - 0.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	NAD	NAD	NAD	-	NAD
TP417	1.4 - 1.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH501	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-
BH502	0.5 - 0.6 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-
BH503	0 - 0.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-
BH504	0.5 - 0.6 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH504	1 - 1.1 m	Silty CLAY	2/12/2021	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-
BH505	0 - 0.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-
BD2/20211202	0 - 0.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-
508	0.15 - 0.35 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
601	0 - 0.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
602	0.5 - 0.6 m	Silty CLAY	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
603	0.5 - 0.6 m	Silty CLAY	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
604	0 - 0.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
605	0.5 - 0.6 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
606	0.5 - 0.6 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
606	1 - 1.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
607	0 - 0.1 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
608	0.5 - 0.6 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
609	1 - 1.1 m	Silty CLAY	2/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
610	0.5 - 0.6 m	Silty CLAY	2/12/2021	NT	NT	NT	NT	NT	NT	NT	NT	NT	NAD	-	-	-	-	-
BD3/20211202	0.5 - 0.6 m	Silty CLAY	2/12/2021	NT	NT	NT	NT	NT	NT	NT	NT	NT	NAD	-	-	-	-	-
611	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	-	-	-	-	-
611	0.5 - 0.6 m	FILL	2/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-

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Table C1: Summary of Laboratory Results – Site Suitability Assessment

				OCP							OPP	PCB	Asbestos					
				Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Total PCB	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil (500ml sample) <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos ID in material
			PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			g	g	<0.001	<0.001
Site Assessment Criteria - Commercial Land Use																		
HIL A				6	50	270	10	6	10	300	160	1	0.01				0.001	
HSL A&B	0- <1m		(clay)															
EIL/ ESL	0-<2m		(fine)															
Management Limit			(fine)															
Direct Contact A																		
612	0.5 - 0.7 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
612 - [TRIPLICATE]	0.5 - 0.7 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
612	1 - 1.2 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
612	1.6 - 1.8 m	CLAY	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
616	0.5 - 0.7 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
619	0.8 - 1 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	-	-	-	-	-
BD4/20211220	0.8 - 1 m	FILL	22/12/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.1	-	-	-	-	-	-
620	0.8 - 1 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
620	1.3 - 1.5 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
620	2.3 - 2.5 m	CLAY	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
621	0.1 - 0.3 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
622	0.1 - 0.3 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
622	1.2 - 1.4 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
622	0.2 - 0.4 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
623	0.8 - 1 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH701	0.1 - 0.2 m	FILL	02/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH701	0.5 - 0.6 m	FILL	02/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH701	0.9 - 1 m	Silty CLAY	02/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH702	0.1 - 0.2 m	FILL	02/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH702	0.5 - 0.6 m	FILL	02/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BH702	1 - 1.1 m	FILL	02/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	NAD	-	-	-	-	-
BH702	1.4 - 1.5 m	Sandy CLAY	02/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD211221NB	0.5 - 0.6 m	FILL	02/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
703	0.1 - 0.3 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	-	-	-	-	-
703	0.5 - 0.7 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
704	0.1 - 0.3 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	-	-	-	-	-
705	0.8 - 1 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
705	1.8 - 2 m	CLAY	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706	0.2 - 0.4 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
706	0.8 - 1 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
705	0.8 - 1 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
705	1.8 - 2 m	CLAY	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706	0.2 - 0.4 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
706	0.8 - 1 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
706	2 - 2.2 m	Silty SAND	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS1	0 m	FILL	22/12/2021	**0.7**	**0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	-	-	-	-	-
SS1 - [TRIPLICATE]	0 m	FILL	22/12/2021	**0.4**	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
EWTP1	0 - 0.1 m	Fill	1/07/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
BD1/20210701	0 - 0.1 m	Fill	1/07/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
EWTP2	0.4 - 0.5 m	Natural	1/07/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
EWTP3	0 - 0.1 m	Fill	1/07/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-
EWTP3	0.3 - 0.4 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
EWTP4	0 - 0.1 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	-	-	-	-	-
EWTP4	0.5 - 0.6 m	Fill	1/07/2021	-	-	-	-	-	-	-	-	-	NAD	-	-	-	-	-

Indicates that asbestos has been detected by the lab, refer to the lab report

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Ecological criteria applies to DDT only

d Criteria for pentachlorophenol used as an initial screen

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Residential A with garden/accessible soil

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				Metals										TRH					BTEX													
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	TCLP-Nickel	Zinc	TRH C6 - C9	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	C10-C36 recoverable hydrocarbons	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Xylenes (total)	Benzo(a)pyrene (BaP)	TCLP-BaP	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene
			PQL	4	0.4	1	1	1	0.1	1	0.02	1	25	50	100	100	50	0.2	0.5	1	2	1	3	0.05	0.001	0.1	0.1	0.1	0.1	0.2	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Waste Classification Criteria [f]																															
CT1				100	20	100	NC	100	4	40	N/A	NC	650	NC	NC	NC	10000	10	288	600	NC	NC	1000	0.8	N/A	NC	NC	NC	NC	NC	NC
SCC1				500	100	1900	NC	1500	50	1050	N/A	NC	650	NC	NC	NC	10000	18	518	1080	NC	NC	1800	10	N/A	NC	NC	NC	NC	NC	NC
TCLP1				N/A	N/A	N/A	NC	N/A	N/A	N/A	2	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.04	NC	NC	NC	NC	NC	NC
CT2				400	80	400	NC	400	16	160	N/A	NC	2600	NC	NC	NC	40000	40	1152	2400	NC	NC	4000	3.2	N/A	NC	NC	NC	NC	NC	NC
SCC2				2000	400	7600	NC	6000	200	4200	N/A	NC	2600	NC	NC	NC	40000	72	2073	4320	NC	NC	7200	23	N/A	NC	NC	NC	NC	NC	NC
TCLP2				N/A	N/A	N/A	NC	N/A	N/A	N/A	8	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.16	NC	NC	NC	NC	NC	NC
Laboratory Results - DP 2020a																															
BH101/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**6**	<0.4	**20**	**10**	**46**	<0.1	**3**	-	**13**	<25	<50	<100	**120**	-	<0.2	<0.5	<1	<2	<1	<3	**0.8**	-	<0.1	<0.1	<0.1	**0.7**	**1**	**0.5**
BH102/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**4**	<0.4	**13**	**28**	**77**	**0.1**	**9**	-	**110**	<25	<50	**100**	**140**	-	<0.2	<0.5	<1	<2	<1	<3	**0.06**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH102/1.0-1.45	1.0-1.45 m	Silty CLAY	20/01/2020	<4	<0.4	**5**	**6**	**13**	<0.1	<1	-	<1	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH103/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<4	<0.4	**13**	**12**	**22**	<0.1	**6**	-	**34**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.3**	**0.4**	**0.1**
BD2/20200120	-	-	20/01/2020	<4	<0.4	**11**	**14**	**21**	<0.1	**6**	-	**38**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.07**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH104/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**4**	<0.4	**13**	**12**	**21**	<0.1	**5**	-	**28**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH104/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	<4	<0.4	**14**	**4**	**12**	<0.1	**2**	-	**3**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH105/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**6**	<0.4	**17**	**15**	**28**	<0.1	**4**	-	**17**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.3**	-	<0.1	<0.1	<0.1	**0.2**	**0.4**	**0.2**
BH106/0.25-0.3	0.25-0.3 m	Silty CLAY	20/01/2020	**6**	<0.4	**14**	**23**	**13**	<0.1	**14**	-	**41**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH107/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**5**	<0.4	**22**	**7**	**16**	<0.1	**2**	-	**6**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.06**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH108/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**6**	<0.4	**18**	**11**	**19**	<0.1	**4**	-	**14**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.2**	**0.3**	**0.1**
BH109/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<4	<0.4	**11**	**30**	**12**	<0.1	**26**	-	**49**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.06**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH109/0.4-0.5	0.4-0.5 m	Silty CLAY	20/01/2020	**8**	<0.4	**17**	**24**	**17**	<0.1	**8**	-	**27**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH109/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	**7**	<0.4	**12**	**24**	**17**	<0.1	**3**	-	**19**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH110/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**5**	<0.4	**12**	**19**	**25**	<0.1	**7**	-	**99**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH110/0.9-1.0	0.9-1.0 m	FILL	20/01/2020	**7**	<0.4	**10**	**14**	**21**	<0.1	**1**	-	**10**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.09**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
Laboratory Results - DP 2020b																															
BH201/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**5**	<0.4	**10**	**11**	**16**	<0.1	**3**	-	**18**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH201/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	**4**	<0.4	**7**	**26**	**13**	<0.1	**2**	-	**6**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH201/1.9-2.0	1.9 - 2 m	FILL	21/01/2020	<4	<0.4	**6**	**25**	**14**	<0.1	**3**	-	**19**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH201/2.3-2.4	2.3 - 2.4 m	FILL	21/01/2020	**4**	<0.4	**12**	**34**	**18**	<0.1	**5**	-	**32**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH202/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**6**	<0.4	**18**	**23**	**48**	<0.1	**15**	-	**60**	<25	<50	**120**	**140**	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH203/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**5**	<0.4	**14**	**21**	**23**	<0.1	**8**	-	**37**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH203/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	<4	<0.4	**9**	**26**	**29**	<0.1	**4**	-	**26**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH203/4.3-4.5	4.3 - 4.5 m	CLAY	21/01/2020	**5**	<0.4	**20**	**12**	**19**	<0.1	**6**	-	**26**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH204/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**8**	<0.4	**8**	**31**	**19**	<0.1	**7**	-	**44**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH205/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**5**	<0.4	**20**	**15**	**33**	**0.1**	**6**	-	**41**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH205/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**6**	<0.4	**27**	**8**	**20**	<0.1	**6**	-	**15**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH205/1.4-1.5	1.4 - 1.5 m	Silty CLAY	21/01/2020	**10**	<0.4	**19**	**7**	**18**	<0.1	**1**	-	**9**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH205/1.4-1.5 - [TRIPLICATE]	1.4 - 1.5 m	Silty CLAY	21/01/2020	**9**	<0.4	**20**	**8**	**19**	<0.1	**1**	-	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH206/0.11-0.2	0.11 - 0.2 m	FILL	21/01/2020	**9**	<0.4	**6**	**27**	**13**	<0.1	**2**	-	**22**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH206/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	**4**	<0.4	**4**	**24**	**13**	<0.1	**2**	-	**21**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH207/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**7**	<0.4	**13**	**22**	**28**	<0.1	**6**	-	**31**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD3/20200121	-	-	21/01/2020	**7**	<0.4	**15**	**13**	**23**	<0.1	**8**	-	**21**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH208/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**6**	<0.4	**18**	**58**	**39**	<0.1	**5**	-	**79**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**1.4**	<0.001	<0.1	**0.4**	**0.8**	**1.8**	**2.1**	**0.7**
BH209/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**8**	<0.4	**6**	**15**	**11**	<0.1	<1	-	**4**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH210/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	**10**	<0.4	**10**	**17**	**24**	<0.1	**1**	-	**22**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
Laboratory Results - Current Investigation (DSI)																															
301	0.1 - 0.2 m	FILL	01/05/2021	**7**	<0.4	**28**	**11**	**24**	<0.1	**5**	-	**18**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.07**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
302	0.4 - 0.5 m	FILL	01/05/2021	**8**	<0.4	**27**	**13**	**25**	<0.1	**4**	-	**37**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
302	0.7 - 0.8 m	Silty CLAY	01/05/2021	**9**	<0.4	**28**	**16**	**20**	<0.1	**2**	-	**5**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
303	0.1 - 0.2 m	FILL	01/05/2021	**5**	<0.4	**18**	**13**	**32**	<0.1	**6**	-	**27**	<25	<50	<100	**120**	-	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.2**	**0.3**	**0.1**
304	0.1 - 0.2 m	FILL	01/05/2021	**9**	<0.4	**23**	**17**	**23**	<0.1	**3**	-	**14**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.05**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
305	0.1 - 0.2 m	FILL	01/05/2021	**6**	<0.4	**20**	**17**	**40**	<0.1	**6**	-	**50**	<25	<50	<100	**100**	-	<0.2	<0.5	<1	<2	<1	<3	**0.4**	-	<0.1	<0.1	<0.1	**0.4**	**0.6**	**0.2**
306	0.1 - 0.2 m	FILL	01/05/2021	**4**	<0.4	**14**	**19**	**79**	<0.1	**6**	-	**100**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.1**	-	<0.1	<0.1	<0.1	**0.2**	**0.2**	**0.1**
307	0.1 - 0.2 m	FILL	01/05/2021	**7**	<0.4	**19**	**23**	**33**	<0.1	**9**	-	**46**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.1**	-	<0.1	<0.1	<0.1	**0.1**	**0.2**	<0.1
308	0.1 - 0.2 m	FILL	01/05/2021	**6**	<0.4	**20**	**19**	**27**	<0.1	**6**	-	**27**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.09**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
309	0.2 - 0.3 m	FILL	01/05/2021	**9**	<0.4	**19**	**18**	**47**	<0.1	**7**	-	**46**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.4**	**0.4**	**0.2**
309	1 - 1.1 m	Silty CLAY	01/05/2021	**5**	<0.4	**8**	**19**	**34**	<0.1	**2**	-	**10**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD9/20210501	1 - 1.1 m	Silty CLAY	01/05/2021	**<5**	<1	**5**	**13**	**28**	<0.1	**<2**	-	<5	<25	<50	<100	<100	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
310	0.2 - 0.3 m	FILL	01/05/2021	**5**	<0.4	**15**	**8**	**72**	<0.1	**4**	-	**43**	<25	<50	<100	**140**	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
310 - [TRIPLICATE]	0.2 - 0.3 m	-	01/05/2021	**6**	<0.4	**14**	**11**	**28**	<0.1	**6**	-	**68**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
310	0.8 - 0.9 m	Silty CLAY	01/05/2021	**5**	<0.4	**18**	**6**	**14**	<0.1	**2**	-	**10**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
311	0.4 - 0.5 m	FILL	01/05/2021	**7**	<0.4	**15**	**9**	**14**	<0.1	**3**	-	**23**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
312	0.7 - 0.8 m	FILL	01/05/2021	<4	<0.4	**6**	**22**	**20**	<0.1	**5**	-	**20**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
312	1.3 - 1.4 m	FILL	01/05/2021	**7**	<0.4	**17**	**22**	**20**	<0.1	**1**	-	**8**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
313	0.1 - 0.2 m	FILL	01/05/2021	**5**	<0.4	**12**	**12**	**16**	<0.1	**4**	-	**23**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD4/20210501	0.1-0.2	FILL	01/05/2021	<5	<1	**10**	**11**	**16**	<0.1	**5**	-	**23**	<10	<50	<100	<100	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
313	0.9 - 1 m	FILL	01/05/2021	**5**	<0.4	**18**	**8**	**18**	<0.1	**6**	-	**19**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
314	0.4 - 0.5 m	FILL	01/05/2021	**5**	<0.4	**13**	**22**	**12**	<0.1	**12**	-	**36**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
314	1.3 - 1.4 m	FILL	01/05/2021	**5**	**0.5**	**27**	**45**	**49**	<0.1	**21**	-	**92**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
314	1.9 - 2 m	Silty Gravelly CLAY	01/05/2021	**8**	<0.4	**10**	**32**	**19**	<0.1	**6**	-	**39**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
315	0 - 0.1 m	FILL	01/05/2021	**4**	<0.4	**12**	**15**	**26**	<0.1	**7**	-	**60**	<25	<50	<100	**100**	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
315	0.6 - 0.7 m	FILL	01/05/2021	**5**	<0.4	**15**	**24**	**31**	<0.1	**9**	-	**59**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
316	0.4 - 0.5 m	FILL	01/05/2021	<4	<0.4	**8**	**9**	**11**	<0.1	**7**	-	**27**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
317	0 - 0.1 m	FILL	01/05/2021	**16**	<0.4	**15**	**24**	**48**	<0.1	**10**	-	**74**	<25	<50	**100**	**160**	-	<0.2	<0.5	<1	<2	<1	<3	**0.05**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
318	0 - 0.1 m	FILL	01/05/2021	**4**	<0.4	**9**	**20**	**36**	<0.1	**5**	-	**54**	<25	<50	<100	**120**	-	<0.2	<0.5	<1	<2	<1	<3	**0.07**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				Metals									TRH					BTEX													
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	TCLP-Nickel	Zinc	TRH C6 - C9	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	C10-C36 recoverable hydrocarbons	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Xylenes (total)	Benzo(a)pyrene (BaP)	TCLP-BaP	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene
			PQL	4	0.4	1	1	1	0.1	1	0.02	1	25	50	100	100	50	0.2	0.5	1	2	1	3	0.05	0.001	0.1	0.1	0.1	0.1	0.2	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Waste Classification Criteria [f]																															
CT1				100	20	100	NC	100	4	40	N/A	NC	650	NC	NC	NC	10000	10	288	600	NC	NC	1000	0.8	N/A	NC	NC	NC	NC	NC	NC
SCC1				500	100	1900	NC	1500	50	1050	N/A	NC	650	NC	NC	NC	10000	18	518	1080	NC	NC	1800	10	N/A	NC	NC	NC	NC	NC	NC
TCLP1				N/A	N/A	N/A	NC	N/A	N/A	N/A	2	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.04	NC	NC	NC	NC	NC	NC
CT2				400	80	400	NC	400	16	160	N/A	NC	2600	NC	NC	NC	40000	40	1152	2400	NC	NC	4000	3.2	N/A	NC	NC	NC	NC	NC	NC
SCC2				2000	400	7600	NC	6000	200	4200	N/A	NC	2600	NC	NC	NC	40000	72	2073	4320	NC	NC	7200	23	N/A	NC	NC	NC	NC	NC	NC
TCLP2				N/A	N/A	N/A	NC	N/A	N/A	N/A	8	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.16	NC	NC	NC	NC	NC	NC
319	0.2 - 0.3 m	FILL	01/05/2021	**5**	<0.4	**12**	**15**	**26**	<0.1	**5**	-	**27**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
319	0.4 - 0.5 m	FILL	01/05/2021	**9**	<0.4	**26**	**15**	**23**	<0.1	**5**	-	**32**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD7/20210501	0.4 - 0.5 m	FILL	01/05/2021	**8**	<0.4	**21**	**12**	**20**	<0.1	**3**	-	**14**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
319	1.3 - 1.4 m	FILL	01/05/2021	<4	<0.4	**8**	**23**	**13**	<0.1	**2**	-	**12**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
319	1.9 - 2 m	FILL	01/05/2021	**6**	<0.4	**15**	**17**	**62**	**0.4**	**3**	-	**30**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
319	2.4 - 2.5 m	Silty CLAY	01/05/2021	**11**	<0.4	**14**	**14**	**35**	<0.1	**4**	-	**38**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD8/20210501	2.4 - 2.5 m	Silty CLAY	01/05/2021	**7**	<0.4	**18**	**24**	**83**	<0.1	**5**	-	**160**	<25	<50	<100	**120**	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
319 - [TRIPLICATE]	2.4 - 2.5 m	Silty CLAY	01/05/2021	**4**	<0.4	**10**	**15**	**28**	<0.1	**4**	-	**33**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320	0.4 - 0.5 m	FILL	01/05/2021	**9**	<0.4	**24**	**22**	**35**	<0.1	**110**	**0.06**	**48**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
320	0.9 - 1 m	FILL	01/05/2021	**7**	<0.4	**14**	**17**	**21**	<0.1	**11**	-	**24**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
321	0.4 - 0.5 m	FILL	01/05/2021	**9**	<0.4	**14**	**21**	**23**	<0.1	**8**	-	**42**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
322	0 - 0.1 m	FILL	01/05/2021	<4	<0.4	**25**	**25**	**48**	<0.1	**28**	-	**93**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
323	0.9 - 1 m	FILL	01/05/2021	<4	<0.4	**17**	**26**	**13**	<0.1	**16**	-	**28**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
323	1.9 - 2 m	FILL	01/05/2021	**6**	<0.4	**14**	**18**	**62**	<0.1	**6**	-	**33**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
323 - [TRIPLICATE]	1.9 - 2 m	-	01/05/2021	**7**	<0.4	**20**	**23**	**45**	<0.1	**7**	-	**38**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
323	2.4 - 2.5 m	FILL	01/05/2021	**6**	<0.4	**10**	**28**	**23**	<0.1	**8**	-	**48**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
324	0.9 - 1 m	FILL	01/05/2021	**8**	<0.4	**15**	**13**	**22**	<0.1	**2**	-	**8**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
324	1.1 - 1.2 m	FILL	01/05/2021	**8**	<0.4	**12**	**18**	**29**	<0.1	**5**	-	**33**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.07**	-	<0.1	<0.1	<0.1	**0.1**	<0.2	<0.1
235	0.4 - 0.5 m	FILL	01/05/2021	**5**	<0.4	**14**	**20**	**38**	<0.1	**7**	-	**45**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
326	0 - 0.1 m	FILL	01/05/2021	<4	<0.4	**7**	**15**	**18**	<0.1	**7**	-	**45**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
326	0.3 - 0.4 m	SILTSTONE	01/05/2021	<4	<0.4	**4**	**16**	**14**	**0.1**	**3**	-	**22**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
314-A1	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
315-A4	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320-A7	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
313-A9	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP401	0.4 - 0.5 m	FILL	28/06/2021	**4**	<0.4	**10**	**33**	**23**	<0.1	**5**	-	**46**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP401	0.9 - 1 m	FILL	28/06/2021	**5**	<0.4	**11**	**6**	**11**	<0.1	**2**	-	**10**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD1/20210628	0.9-1 m	FILL	28/06/2021	**5**	<0.4	**4**	**17**	**9**	<0.1	**2**	-	**17**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP401	1.9 - 2 m	Silty CLAY	28/06/2021	**6**	<0.4	**18**	**5**	**11**	<0.1	**1**	-	**3**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP402	0 - 0.1 m	FILL	28/06/2021	**5**	<0.4	**12**	**15**	**19**	<0.1	**8**	-	**72**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP402	0.4 - 0.5 m	FILL	28/06/2021	**5**	<0.4	**9**	**17**	**14**	<0.1	**2**	-	**18**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP402	1 - 1.1 m	FILL	28/06/2021	**14**	<0.4	**8**	**18**	**18**	<0.1	**3**	-	**17**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD2/20210628	1-1.1 m	FILL	28/06/2021	**4**	<0.4	**3**	**13**	**11**	<0.1	**1**	-	**16**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP403	0.4 - 0.5 m	FILL	28/06/2021	**8**	<0.4	**17**	**53**	**34**	<0.1	**5**	-	**58**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**1.1**	<0.001	<0.1	**0.4**	**0.4**	**1.2**	**2**	**0.6**
TP403 - [TRIPLICATE]	0.4 - 0.5 m	FILL	28/06/2021	**7**	<0.4	**18**	**80**	**43**	<0.1	**5**	-	**71**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP403	0.9 - 1 m	Silty CLAY	28/06/2021	**7**	<0.4	**4**	**14**	**15**	<0.1	<1	-	**6**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP404	0.4 - 0.5 m	FILL	28/06/2021	**7**	<0.4	**5**	**20**	**27**	**0.2**	**24**	-	**150**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP404	0.9 - 1 m	Gravelly CLAY	28/06/2021	**6**	<0.4	**4**	**24**	**17**	<0.1	**38**	-	**160**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP405	0 - 0.1 m	FILL	28/06/2021	**9**	<0.4	**14**	**21**	**21**	<0.1	**7**	-	**42**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP406	0.1 - 0.2 m	FILL	28/06/2021	**7**	<0.4	**10**	**11**	**21**	<0.1	**7**	-	**40**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP406	0.2 - 0.3 m	FILL	28/06/2021	<4	<0.4	**4**	**13**	**15**	<0.1	**2**	-	**16**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP407	0.1 - 0.2 m	FILL	28/06/2021	**4**	<0.4	**13**	**13**	**21**	<0.1	**7**	-	**35**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP408	0.1 - 0.2 m	FILL	28/06/2021	**5**	<0.4	**15**	**11**	**16**	<0.1	**10**	-	**41**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP409	0.1 - 0.2 m	FILL	28/06/2021	**5**	<0.4	**15**	**14**	**22**	<0.1	**9**	-	**37**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP411	0.1 - 0.2 m	FILL	28/06/2021	**7**	<0.4	**19**	**17**	**30**	<0.1	**7**	-	**40**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP412	0 - 0.1 m	FILL	28/06/2021	**6**	<0.4	**17**	**14**	**25**	<0.1	**6**	-	**29**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP413	0.4 - 0.5 m	FILL	28/06/2021	**6**	<0.4	**17**	**16**	**30**	<0.1	**5**	-	**48**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.3**	-	<0.1	<0.1	<0.1	**0.4**	**0.5**	**0.2**
TP413	1.1 - 1.2 m	FILL	28/06/2021	**5**	<0.4	**13**	**15**	**38**	<0.1	**4**	-	**28**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.05**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD3/20210628	1.1-1.2 m	FILL	28/06/2021	<4	<0.4	**9**	**30**	**14**	<0.1	**6**	-	**25**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.05**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP413	1.9 - 2 m	Silty CLAY	28/06/2021	**8**	<0.4	**18**	**12**	**17**	<0.1	**3**	-	**16**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP414	0.2 - 0.3 m	FILL	28/06/2021	**6**	<0.4	**14**	**17**	**27**	<0.1	**6**	-	**31**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.1**	-	<0.1	<0.1	<0.1	**0.1**	<0.2	<0.1
TP415	0 - 0.1 m	FILL	28/06/2021	<4	<0.4	**7**	**8**	**14**	<0.1	**4**	-	**28**	<25	<50	<100	**100**	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP416	0.4 - 0.5 m	FILL	28/06/2021	**10**	<0.4	**21**	**21**	**29**	<0.1	**5**	-	**46**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.96**	<0.001	<0.1	**0.3**	**0.4**	**1**	**1**	**0.6**
TP416	0.9 - 1 m	Gravelly CLAY	28/06/2021	<4	<0.4	**1**	**12**	**10**	<0.1	<1	-	**11**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP417	0.4 - 0.5 m	FILL	28/06/2021	**7**	<0.4	**12**	**20**	**34**	<0.1	**15**	-	**57**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
TP417	1.4 - 1.5 m	FILL	28/06/2021	<4	<0.4	**12**	**1**	**8**	<0.1	<1	-	**2**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH501	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**17**	**7**	**19**	<0.1	**3**	-	**46**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH502	0.5 - 0.6 m	Silty CLAY	2/12/2021	**6**	<0.4	**24**	**5**	**17**	<0.1	**2**	-	**8**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH503	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**14**	**9**	**20**	<0.1	**4**	-	**35**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH504	0.5 - 0.6 m	FILL	2/12/2021	**4**	<0.4	**15**	**8**	**20**	<0.1	**5**	-	**31**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH504	1 - 1.1 m	Silty CLAY	2/12/2021	<4	<0.4	**15**	**8**	**12**	<0.1	**3**	-	**19**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH505	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**10**	**20**	**16**	<0.1	**5**	-	**44**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD2/20211202	0 - 0.1 m	FILL	2/12/2021	**4**	<0.4	**10**	**14**	**14**	<0.1	**4**	-	**36**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH508	0.15 - 0.35 m	FILL	22/12/2021	**6**	<0.4	**13**	**26**	**26**	<0.1	**6**	-	**27**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
601	0 - 0.1 m	FILL	2/12/2021	**4**	<0.4	**12**	**23**	**36**	**0.2**	**7**	-	**58**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
602	0.5 - 0.6 m	Silty CLAY	2/12/2021	**6**	<0.4	**10**	**23**	**14**	<0.1	**8**	-	**50**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
603	0.5 - 0.6 m	Silty CLAY	2/12/2021	**7**	<0.4	**14**	**24**	**20**	<0.1	**3**	-	**27**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
604	0 - 0.1 m	FILL	2/12/2021	**7**	<0.4	**13**	**23**	**57**	**0.1**	**5**	-	**110**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.07**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				Metals									TRH					BTEX													
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	TCLP-Nickel	Zinc	TRH C6 - C9	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	C10-C36 recoverable hydrocarbons	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Xylenes (total)	Benzo(a)pyrene (BaP)	TCLP-BaP	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene
			PQL	4	0.4	1	1	1	0.1	1	0.02	1	25	50	100	100	50	0.2	0.5	1	2	1	3	0.05	0.001	0.1	0.1	0.1	0.1	0.2	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Waste Classification Criteria [f]																															
CT1				100	20	100	NC	100	4	40	N/A	NC	650	NC	NC	NC	10000	10	288	600	NC	NC	1000	0.8	N/A	NC	NC	NC	NC	NC	NC
SCC1				500	100	1900	NC	1500	50	1050	N/A	NC	650	NC	NC	NC	10000	18	518	1080	NC	NC	1800	10	N/A	NC	NC	NC	NC	NC	NC
TCLP1				N/A	N/A	N/A	NC	N/A	N/A	N/A	2	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.04	NC	NC	NC	NC	NC	NC
CT2				400	80	400	NC	400	16	160	N/A	NC	2600	NC	NC	NC	40000	40	1152	2400	NC	NC	4000	3.2	N/A	NC	NC	NC	NC	NC	NC
SCC2				2000	400	7600	NC	6000	200	4200	N/A	NC	2600	NC	NC	NC	40000	72	2073	4320	NC	NC	7200	23	N/A	NC	NC	NC	NC	NC	NC
TCLP2				N/A	N/A	N/A	NC	N/A	N/A	N/A	8	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.16	NC	NC	NC	NC	NC	NC
605	0.5 - 0.6 m	FILL	2/12/2021	<4	<0.4	**14**	**10**	**25**	<0.1	**5**	-	**28**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
606	0.5 - 0.6 m	FILL	2/12/2021	**5**	<0.4	**14**	**15**	**18**	<0.1	**2**	-	**13**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
606	1 - 1.1 m	FILL	2/12/2021	**4**	<0.4	**13**	**14**	**19**	<0.1	**1**	-	**5**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
607	0 - 0.1 m	FILL	2/12/2021	**5**	<0.4	**15**	**10**	**31**	**0.1**	**5**	-	**33**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				Metals									TRH					BTEX													
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	TCLP-Nickel	Zinc	TRH C6 - C9	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	C10-C36 recoverable hydrocarbons	Benzene	Toluene	Ethylbenzene	m+p-Xylene	o-Xylene	Xylenes (total)	Benzo(a)pyrene (BaP)	TCLP-BaP	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b,j+k)fluoranthene	Benzo(g,h,i)perylene
			PQL	4	0.4	1	1	1	0.1	1	0.02	1	25	50	100	100	50	0.2	0.5	1	2	1	3	0.05	0.001	0.1	0.1	0.1	0.1	0.2	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Waste Classification Criteria [f]																															
CT1				100	20	100	NC	100	4	40	N/A	NC	650	NC	NC	NC	10000	10	288	600	NC	NC	1000	0.8	N/A	NC	NC	NC	NC	NC	NC
SCC1				500	100	1900	NC	1500	50	1050	N/A	NC	650	NC	NC	NC	10000	18	518	1080	NC	NC	1800	10	N/A	NC	NC	NC	NC	NC	NC
TCLP1				N/A	N/A	N/A	NC	N/A	N/A	N/A	2	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.04	NC	NC	NC	NC	NC	NC
CT2				400	80	400	NC	400	16	160	N/A	NC	2600	NC	NC	NC	40000	40	1152	2400	NC	NC	4000	3.2	N/A	NC	NC	NC	NC	NC	NC
SCC2				2000	400	7600	NC	6000	200	4200	N/A	NC	2600	NC	NC	NC	40000	72	2073	4320	NC	NC	7200	23	N/A	NC	NC	NC	NC	NC	NC
TCLP2				N/A	N/A	N/A	NC	N/A	N/A	N/A	8	NC	N/A	NC	NC	NC	N/A	N/A	N/A	N/A	NC	NC	N/A	N/A	0.16	NC	NC	NC	NC	NC	NC
608	0.5 - 0.6 m	FILL	2/12/2021	**6**	<0.4	**16**	**18**	**41**	<0.1	**7**	-	**70**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
609	1 - 1.1 m	Silty CLAY	2/12/2021	**8**	<0.4	**10**	**13**	**18**	<0.1	**1**	-	**11**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
610	0.5 - 0.6 m	Silty CLAY	2/12/2021	**4**	<0.4	**17**	**10**	**15**	<0.1	**1**	-	**3**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD3/20211202	0 m	Silty CLAY	2/12/2021	**5**	<0.4	**10**	**18**	**46**	<0.1	**4**	-	**91**	<25	<50	<100	<100	NT	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
611	0 - 0.1 m	FILL	2/12/2021	**7**	<0.4	**6**	**9**	**21**	<0.1	**2**	-	**89**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.09**	-	<0.1	<0.1	<0.1	**0.3**	**0.3**	<0.1
611	0.5 - 0.6 m	FILL	2/12/2021	**7**	<0.4	**15**	**13**	**120**	<0.1	**3**	-	**20**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.2**	**0.4**	**0.1**
612	0.5 - 0.7 m	FILL	22/12/2021	<4	<0.4	**13**	**170**	**38**	<0.1	**5**	-	**78**	<25	<50	**100**	<100	**100**	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
612 - [TRIPLICATE]	0.5 - 0.7 m	FILL	22/12/2021	**5**	<0.4	**15**	**34**	**32**	<0.1	**5**	-	**37**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
612	1 - 1.2 m	FILL	22/12/2021	**8**	<0.4	**29**	**27**	**24**	<0.1	**9**	-	**22**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
612	1.6 - 1.8 m	CLAY	22/12/2021	<4	<0.4	**8**	**9**	**15**	<0.1	<1	-	**1**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
616	0.5 - 0.7 m	FILL	22/12/2021	**9**	<0.4	**18**	**21**	**19**	<0.1	**4**	-	**15**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
619	0.8 - 1 m	FILL	22/12/2021	**5**	<0.4	**15**	**28**	**22**	<0.1	**6**	-	**55**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD4/20211220	0.8 - 1 m	FILL	22/12/2021	**7**	<1	**23**	**18**	**21**	<0.1	**16**	-	**34**	<10	<50	<100	<100	<50	<0.2	<0.5	<0.5	<2	<1	<3	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
620	0.8 - 1 m	FILL	22/12/2021	**9**	<0.4	**26**	**15**	**49**	<0.1	**5**	-	**37**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
620	1.3 - 1.5 m	FILL	22/12/2021	**10**	<0.4	**19**	**16**	**24**	<0.1	**5**	-	**23**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.2**	**0.3**	<0.1
620	2.3 - 2.5 m	CLAY	22/12/2021	**6**	<0.4	**22**	**11**	**19**	<0.1	**5**	-	**12**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
621	0.1 - 0.3 m	FILL	22/12/2021	**7**	<0.4	**14**	**17**	**23**	<0.1	**6**	-	**46**	<25	<50	**100**	<100	**100**	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
622	0.1 - 0.3 m	FILL	22/12/2021	**10**	<0.4	**17**	**29**	**33**	<0.1	**3**	-	**55**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
622	1.2 - 1.4 m	FILL	22/12/2021	<4	<0.4	**4**	**38**	**4**	<0.1	**35**	-	**20**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
622	0.2 - 0.4 m	FILL	22/12/2021	**7**	<0.4	**9**	**19**	**16**	<0.1	**3**	-	**17**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
623	0.8 - 1 m	FILL	22/12/2021	**7**	<0.4	**9**	**16**	**19**	<0.1	**2**	-	**16**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH701	0.1 - 0.2 m	FILL	02/12/2021	**4**	<0.4	**11**	**14**	**30**	<0.1	**5**	-	**47**	<25	<50	**140**	<100	**140**	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.1**	**0.2**	**0.1**
BH701	0.5 - 0.6 m	FILL	02/12/2021	**9**	<0.4	**15**	**12**	**16**	<0.1	**1**	-	**3**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	**0.07**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH701	0.9 - 1 m	Silty CLAY	02/12/2021	**5**	<0.4	**6**	**16**	**27**	<0.1	<1	-	**2**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH702	0.1 - 0.2 m	FILL	02/12/2021	<4	<0.4	**14**	**15**	**27**	<0.1	**8**	-	**39**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	**0.1**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH702	0.5 - 0.6 m	FILL	02/12/2021	<4	<0.4	**8**	**22**	**8**	<0.1	**22**	-	**20**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD211221NB	0.5 - 0.6 m	FILL	02/12/2021	<5	<1	**12**	**24**	**16**	<0.1	**13**	-	**29**	<10	<50	<50	<50	<50	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH702	1 - 1.1 m	FILL	02/12/2021	<4	<0.4	**5**	**20**	**4**	<0.1	**18**	-	**17**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH702	1.4 - 1.5 m	Sandy CLAY	02/12/2021	<4	<0.4	**9**	**21**	**11**	<0.1	**17**	-	**49**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH703	0.1 - 0.3 m	FILL	22/12/2021	<4	<0.4	**8**	**12**	**14**	<0.1	**6**	-	**35**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BH703	0.5 - 0.7 m	FILL	22/12/2021	**6**	<0.4	**14**	**15**	**19**	<0.1	**5**	-	**14**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
704	0.1 - 0.3 m	FILL	22/12/2021	**5**	<0.4	**21**	**17**	**22**	<0.1	**13**	-	**55**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	**0.05**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
705	0.8 - 1 m	FILL	22/12/2021	**4**	<0.4	**18**	**17**	**26**	<0.1	**4**	-	**12**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
705	1.8 - 2 m	CLAY	22/12/2021	**6**	<0.4	**8**	**23**	**12**	<0.1	**2**	-	**11**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
706	0.2 - 0.4 m	FILL	22/12/2021	**6**	<0.4	**14**	**21**	**23**	<0.1	**6**	-	**36**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	**0.2**	-	<0.1	<0.1	<0.1	**0.2**	**0.3**	**0.1**
706	0.8 - 1 m	FILL	22/12/2021	**5**	<0.4	**19**	**17**	**22**	<0.1	**7**	-	**12**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	**0.1**	-	<0.1	<0.1	<0.1	**0.1**	**0.3**	<0.1
706	2 - 2.2 m	Silty SAND	22/12/2021	**5**	<0.4	**6**	**31**	**13**	<0.1	**4**	-	**17**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
SS1	0 m	FILL	22/12/2021	**7**	<0.4	**6**	**16**	**27**	<0.1	**1**	-	**64**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
SS1 - [TRIPLICATE]	0 m	FILL	22/12/2021	**23**	<0.4	**7**	**17**	**26**	<0.1	<1	-	**35**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EWTP1	0 - 0.1 m	Fill	1/07/2021	<4	<0.4	**9**	**10**	**20**	<0.1	**7**	-	**33**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
BD1/20210701	0 m	Fill	1/07/2021	**6**	<0.4	**10**	**12**	**13**	<0.1	**6**	-	**20**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
EWTP2	0.4 - 0.5 m	Natural	1/07/2021	<4	<0.4	**18**	**9**	**16**	<0.1	**3**	-	**7**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
EWTP3	0 - 0.1 m	Fill	1/07/2021	<4	<0.4	**10**	**16**	**22**	<0.1	**5**	-	**38**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
EWTP3	0.3 - 0.4 m	Fill	1/07/2021	<4	<0.4	**12**	**9**	**23**	<0.1	**3**	-	**23**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	**0.1**	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
EWTP4	0 - 0.1 m	Fill	1/07/2021	**10**	<0.4	**6**	**11**	**13**	<0.1	**5**	-	**28**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
EWTP4	0.5 - 0.6 m	Fill	1/07/2021	**9**	<0.4	**19**	**7**	**11**	<0.1	**4**	-	**7**	<25	<50	<100	<100	-	<0.2	<0.5	<1	<2	<1	<3	<0.05	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1
Summary Statistics																															
Min				4	0.4	1	1	4	0.1	1	0.06	1	25	50	100	100	50	0.2	0.5	1	2	1	3	0.05	0.001	0.1	0.1	0.1	0.1	0.2	0.1
Max				23	0.5	29	170	120	0.4	110	0.06	160	25	50	140	160	140	101	99	104	105	103	3	1.4	0.001	0.1	0.4	0.8	1.8	2.1	0.7
Mean				6	0.4	14	19	25	0.1	7	0.06	35	25	50	100	102	56	2.4	2.7	3	4	3	3	0.09	0.001	0.1	0.1	0.1	0.1	0.2	0.1
Standard Deviation				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95% UCL				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CT1 exceedance | TCLP1 and/or SCC1 exceedance | CT2 exceedance | TCLP2 and/or SCC2 exceedance | Asbestos detection

NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Total chromium used as initial screen for chromium(VI).

c Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)

d Criteria for scheduled chemicals used as an initial screen

e Criteria for Chlorpyrifos used as initial screen

f All criteria are in the same units as the reported results

PQL Practical quantitation limit

95% UCL 95% upper confidence limit of the mean concentration calculated using ProUCL v5.1 and the 95% Student's-t UCL method

#1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM>7mm, <7mm and FA/AF)

#2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to bequantified by gravimetric procedures. This screening level is not applicable to free fibres.

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				PAH										Phenol	OCP			OPP	PCB	Asbestos								Additional Metals
				Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs		Total Endosulfan	Total Analysed OCP		Total Analysed OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation#2	Total Asbestos#1	Total Asbestos	Iron
			PQL	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.05	5	0.1	0.1		0.1	0.1						<0.001	<0.1	0.001	10
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	-	-	-	g	g	%(w/w)	g/kg	-	mg/kg
Waste Classification Criteria [f]																											
CT1				NC	NC	NC	NC	NC	NC	NC	NC	200	288	60	<50		4	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC1				NC	NC	NC	NC	NC	NC	NC	NC	200	518	108	<50		7.5	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP1				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A		N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
CT2				NC	NC	NC	NC	NC	NC	NC	NC	800	1152	240	<50		16	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC2				NC	NC	NC	NC	NC	NC	NC	NC	800	2073	432	<50		30	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP2				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A		N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
Laboratory Results - DP 2020a																											
BH101/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**0.8**	**0.1**	**0.4**	<0.1	**0.4**	<1	**0.1**	**0.6**	**5.8**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH102/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	**0.1**	<0.1	<0.1	<1	<0.1	**0.1**	**0.3**	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BH102/1.0-1.45	1.0-1.45 m	Silty CLAY	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH103/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**0.3**	<0.1	**0.3**	<0.1	**0.1**	<1	<0.1	**0.3**	**2**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD2/20200120	-	-	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.07**	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH104/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BH104/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH105/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**0.3**	<0.1	**0.2**	<0.1	**0.2**	<1	<0.1	**0.2**	**1.9**	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BH106/0.25-0.3	0.25-0.3 m	Silty CLAY	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH107/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.06**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH108/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	**0.3**	<0.1	**0.2**	<0.1	**0.1**	<1	**0.1**	**0.3**	**1.8**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH109/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.06**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH109/0.4-0.5	0.4-0.5 m	Silty CLAY	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH109/0.9-1.0	0.9-1.0 m	Silty CLAY	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH110/0.1-0.2	0.1-0.2 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BH110/0.9-1.0	0.9-1.0 m	FILL	20/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.09**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
Laboratory Results - DP 2020b																											
BH201/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH201/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH201/1.9-2.0	1.9 - 2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH201/2.3-2.4	2.3 - 2.4 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH202/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH203/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH203/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH203/4.3-4.5	4.3 - 4.5 m	CLAY	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH204/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH205/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH205/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH205/1.4-1.5	1.4 - 1.5 m	Silty CLAY	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH205/1.4-1.5 - [TRIPLICATE]	1.4 - 1.5 m	Silty CLAY	21/01/2020	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH206/0.11-0.2	0.11 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BH206/0.9-1.0	0.9 - 1 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH207/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BD3/20200121	-	-	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH208/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	**1.8**	**0.2**	**3.9**	**0.3**	**0.7**	<1	**3.5**	**3.6**	**21**	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BH209/0.4-0.5	0.4 - 0.5 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
BH210/0.1-0.2	0.1 - 0.2 m	FILL	21/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
Laboratory Results - Current Investigation (DSI)																											
301	0.1 - 0.2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.07**	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
302	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
302	0.7 - 0.8 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	-
303	0.1 - 0.2 m	FILL	01/05/2021	**0.2**	<0.1	**0.3**	<0.1	<0.1	<1	**0.1**	**0.3**	**1.6**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
304	0.1 - 0.2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.05**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
305	0.1 - 0.2 m	FILL	01/05/2021	**0.4**	<0.1	**0.4**	<0.1	**0.2**	<1	<0.1	**0.5**	**3.2**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
306	0.1 - 0.2 m	FILL	01/05/2021	**0.1**	<0.1	**0.2**	<0.1	<0.1	<1	<0.1	**0.2**	**1**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
307	0.1 - 0.2 m	FILL	01/05/2021	**0.1**	<0.1	**0.2**	<0.1	<0.1	<1	<0.1	**0.2**	**1**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
308	0.1 - 0.2 m	FILL	01/05/2021	**0.1**	<0.1	**0.1**	<0.1	<0.1	<1	<0.1	**0.2**	**0.5**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
309	0.2 - 0.3 m	FILL	01/05/2021	**0.3**	<0.1	**0.3**	<0.1	**0.1**	<1	**0.1**	**0.3**	**2.3**	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
309	1 - 1.1 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	**23000**
BD9/20210501	1 - 1.1 m	Silty CLAY	01/05/2021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-		-	-	-	-	-	-	-	-	-	-	
310	0.2 - 0.3 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
310 - [TRIPLICATE]	0.2 - 0.3 m	-	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
310	0.8 - 0.9 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	**29000**
311	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
312	0.7 - 0.8 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
312	1.3 - 1.4 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
313	0.1 - 0.2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	NAD	-	-	**<0.001**	**<0.1**	NAD	-
BD4/20210501	0.1-0.2	FILL	01/05/2021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-		-	-	-	-	-	-	-	-	-	-	-
313	0.9 - 1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
314	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
314	1.3 - 1.4 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	NAD	-	-	**<0.001**	**<0.1**	NAD	-
314	1.9 - 2 m	Silty Gravelly CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	-	-	-	-	-	-	-	-	**33000**
315	0 - 0.1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
315	0.6 - 0.7 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1		<0.1	-	NAD	NAD	**Chrysotile**	**0.0817**	-	**<0.001**	**<0.1**	**-**	-
316	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
317	0 - 0.1 m	FILL	01/05/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	<1	<0.1	**0.1**	**0.2**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-
318	0 - 0.1 m	FILL	01/05/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	<1	<0.1	**0.1**	**0.3**	-	-	-		-	-	NAD	NAD	-	-	-	-	-	NAD	-

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				PAH									Phenol	OCP		OPP	PCB	Asbestos								Additional Metals
				Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	Phenol	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation#2	Total Asbestos#1	Total Asbestos	Iron
			PQL	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.05	5	0.1	0.1	0.1	0.1						<0.001	<0.1	0.001	10
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	g	g	%(w/w)	g/kg	-	mg/kg
Waste Classification Criteria [f]																										
CT1				NC	NC	NC	NC	NC	NC	NC	NC	200	288	60	<50	4	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC1				NC	NC	NC	NC	NC	NC	NC	NC	200	518	108	<50	7.5	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP1				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
CT2				NC	NC	NC	NC	NC	NC	NC	NC	800	1152	240	<50	16	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC2				NC	NC	NC	NC	NC	NC	NC	NC	800	2073	432	<50	30	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP2				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
319	0.2 - 0.3 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
319	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD7/20210501	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
319	1.3 - 1.4 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
319	1.9 - 2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
319	2.4 - 2.5 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BD8/20210501	2.4 - 2.5 m	Silty CLAY	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-
319 - [TRIPLICATE]	2.4 - 2.5 m	Silty CLAY	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
320	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
320	0.9 - 1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	-	-	NAD	-	-	**<0.001**	**<0.1**	NAD	-
321	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
322	0 - 0.1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
323	0.9 - 1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
323	1.9 - 2 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
323 - [TRIPLICATE]	1.9 - 2 m	-	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
323	2.4 - 2.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
324	0.9 - 1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
324	1.1 - 1.2 m	FILL	01/05/2021	**0.2**	<0.1	**0.2**	<0.1	<0.1	<1	<0.1	**0.2**	**0.82**	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
235	0.4 - 0.5 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
326	0 - 0.1 m	FILL	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
326	0.3 - 0.4 m	SILTSTONE	01/05/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	**5200**
314-A1	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Chysotile	-	-	-	-	-	-	-	-
315-A4	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Chysotile	-	-	-	-	-	-	-	-
320-A7	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Chysotile	-	-	-	-	-	-	-	-
313-A9	0 m	FC Material	01/05/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Chysotile	-	-	-	-	-	-	-	-
TP401	0.4 - 0.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP401	0.9 - 1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
BD1/20210628	0.9-1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP401	1.9 - 2 m	Silty CLAY	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP402	0 - 0.1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP402	0.4 - 0.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP402	1 - 1.1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD2/20210628	1-1.1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP403	0.4 - 0.5 m	FILL	28/06/2021	**1.2**	**0.1**	**2.2**	**0.1**	**0.5**	<1	**1.3**	**2.4**	**13**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP403 - [TRIPLICATE]	0.4 - 0.5 m	FILL	28/06/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP403	0.9 - 1 m	Silty CLAY	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP404	0.4 - 0.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP404	0.9 - 1 m	Gravelly CLAY	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP405	0 - 0.1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP406	0.1 - 0.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP406	0.2 - 0.3 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP407	0.1 - 0.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP408	0.1 - 0.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP409	0.1 - 0.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP411	0.1 - 0.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP412	0 - 0.1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP413	0.4 - 0.5 m	FILL	28/06/2021	**0.3**	<0.1	**0.6**	<0.1	**0.2**	<1	**0.2**	**0.6**	**3.2**	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
TP413	1.1 - 1.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.05**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD3/20210628	1.1-1.2 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	**0.05**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP413	1.9 - 2 m	Silty CLAY	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP414	0.2 - 0.3 m	FILL	28/06/2021	**0.2**	<0.1	**0.4**	<0.1	<0.1	<1	**0.3**	**0.4**	**1.6**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP415	0 - 0.1 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP416	0.4 - 0.5 m	FILL	28/06/2021	**1**	**0.1**	**2**	<0.1	**0.4**	<1	**1.6**	**2.1**	**12**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
TP416	0.9 - 1 m	Gravelly CLAY	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP417	0.4 - 0.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
TP417	1.4 - 1.5 m	FILL	28/06/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH501	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
BH502	0.5 - 0.6 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
BH503	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH504	0.5 - 0.6 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH504	1 - 1.1 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH505	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD2/20211202	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH508	0.15 - 0.35 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
601	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
602	0.5 - 0.6 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
603	0.5 - 0.6 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
604	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.2**	**0.4**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				PAH									Phenol	OCP		OPP	PCB	Asbestos								Additional Metals
				Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	Phenol	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimate#2	Total Asbestos#1	Total Asbestos	Iron
			PQL	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.05	5	0.1	0.1	0.1	0.1						<0.001	<0.1	0.001	10
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	g	g	%(w/w)	g/kg	-	mg/kg
Waste Classification Criteria [f]																										
CT1				NC	NC	NC	NC	NC	NC	NC	NC	200	288	60	<50	4	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC1				NC	NC	NC	NC	NC	NC	NC	NC	200	518	108	<50	7.5	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP1				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
CT2				NC	NC	NC	NC	NC	NC	NC	NC	800	1152	240	<50	16	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC2				NC	NC	NC	NC	NC	NC	NC	NC	800	2073	432	<50	30	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP2				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
605	0.5 - 0.6 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
606	0.5 - 0.6 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
606	1 - 1.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
607	0 - 0.1 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-

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Table C2 : Summary of Laboratory Results – Waste Classification Criteria

				PAH									Phenol	OCP		OPP	PCB	Asbestos								Additional Metals
				Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	Phenol	Total Endosulfan	Total Analysed OCP	Total Analysed OPP	Total PCB	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation#2	Total Asbestos#1	Total Asbestos	Iron
			PQL	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.05	5	0.1	0.1	0.1	0.1						<0.001	<0.1	0.001	10
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	g	g	%(w/w)	g/kg	-	mg/kg
Waste Classification Criteria [f]																										
CT1				NC	NC	NC	NC	NC	NC	NC	NC	200	288	60	<50	4	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC1				NC	NC	NC	NC	NC	NC	NC	NC	200	518	108	<50	7.5	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP1				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
CT2				NC	NC	NC	NC	NC	NC	NC	NC	800	1152	240	<50	16	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
SCC2				NC	NC	NC	NC	NC	NC	NC	NC	800	2073	432	<50	30	<50	NC	NC	NC	NC	NC	NC	NC	NC	NC
TCLP2				NC	NC	NC	NC	NC	NC	NC	NC	N/A	N/A	N/A	N/A	N/A	N/A	NC	NC	NC	NC	NC	NC	NC	NC	NC
608	0.5 - 0.6 m	FILL	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
609	1 - 1.1 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
610	0.5 - 0.6 m	Silty CLAY	2/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD3/20211202	0 m	Silty CLAY	2/12/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.3**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
611	0 - 0.1 m	FILL	2/12/2021	**0.3**	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	**0.4**	**1.8**	<5	<0.1	<0.1	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
611	0.5 - 0.6 m	FILL	2/12/2021	**0.2**	<0.1	**0.5**	<0.1	**0.1**	<0.1	**0.2**	**0.4**	**2.3**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
612	0.5 - 0.7 m	FILL	22/12/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	**0.2**	**0.2**	**0.1**	**0.68**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
612 - [TRIPLICATE]	0.5 - 0.7 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
612	1 - 1.2 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
612	1.6 - 1.8 m	CLAY	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
616	0.5 - 0.7 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
619	0.8 - 1 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
BD4/20211220	0.8 - 1 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<1	<0.05	<0.05	<0.2	<0.1	-	-	-	-	-	-	-	-	-
620	0.8 - 1 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**0.2**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
620	1.3 - 1.5 m	FILL	22/12/2021	**0.2**	<0.1	**0.3**	<0.1	<0.1	<0.1	**0.1**	**0.3**	**1.6**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
620	2.3 - 2.5 m	CLAY	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
621	0.1 - 0.3 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
622	0.1 - 0.3 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
622	1.2 - 1.4 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
622	0.2 - 0.4 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
623	0.8 - 1 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH701	0.1 - 0.2 m	FILL	02/12/2021	**0.1**	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.2**	**0.96**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH701	0.5 - 0.6 m	FILL	02/12/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.3**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH701	0.9 - 1 m	Silty CLAY	02/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH702	0.1 - 0.2 m	FILL	02/12/2021	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.3**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BH702	0.5 - 0.6 m	FILL	02/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD211221NB	0.5 - 0.6 m	FILL	02/12/2021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH702	1 - 1.1 m	FILL	02/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	-	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
BH702	1.4 - 1.5 m	Sandy CLAY	02/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH703	0.1 - 0.3 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
BH703	0.5 - 0.7 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
704	0.1 - 0.3 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.2**	<5	<0.1	<0.1	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
705	0.8 - 1 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
705	1.8 - 2 m	CLAY	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
706	0.2 - 0.4 m	FILL	22/12/2021	**0.2**	<0.1	**0.3**	<0.1	<0.1	<0.1	**0.1**	**0.3**	**1.6**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
706	0.8 - 1 m	FILL	22/12/2021	**0.1**	<0.1	**0.3**	<0.1	<0.1	<0.1	<0.1	**0.3**	**1.2**	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
706	2 - 2.2 m	Silty SAND	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS1	0 m	FILL	22/12/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<5	<0.1	**1.6**	<0.1	<0.1	NAD	NAD	-	-	-	-	-	NAD	-
SS1 - [TRIPLICATE]	0 m	FILL	22/12/2021	-	-	-	-	-	-	-	-	-	-	<0.1	**0.7**	-	-	-	-	-	-	-	-	-	-	-
EWTP1	0 - 0.1 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
BD1/20210701	0 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
EWTP2	0.4 - 0.5 m	Natural	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
EWTP3	0 - 0.1 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
EWTP3	0.3 - 0.4 m	Fill	1/07/2021	**0.1**	<0.1	**0.2**	<0.1	<0.1	<1	<0.1	**0.2**	**0.67**	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
EWTP4	0 - 0.1 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	<5	<0.1	<0.1	<0.1	-	NAD	NAD	-	-	-	-	-	NAD	-
EWTP4	0.5 - 0.6 m	Fill	1/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.05	-	-	-	-	-	NAD	NAD	-	-	-	-	-	NAD	-
Summary Statistics																										
Min				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	5	0.1	0.1	0.1	0.1	-	-	-	-	-	-	-	-	5200
Max				1.8	0.2	3.9	0.3	0.7	1	3.5	3.6	21	5	0.1	1.6	0.1	0.1	-	-	-	-	-	-	-	-	33000
Mean				0.1	0.1	0.2	0.1	0.1	1	0.1	0.2	0.57	5	0.1	0.2	0.1	0.1	-	-	-	-	-	-	-	-	22550
Standard Deviation				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95% UCL				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance TCLP2 and/or SCC2 exceedance Asbestos detection

NT = Not tested NL = Non limiting NC = No criteria NA = Not applicable

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Total chromium used as initial screen for chromium(VI).

c Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)

d Criteria for scheduled chemicals used as an initial screen

e Criteria for Chlorpyrifos used as initial screen

f All criteria are in the same units as the reported results

PQL Practical quantitation limit

95% UCL 95% upper confidence limit of the mean concentration calculated using ProUCL v5.1 and the 95% Student's-t UCL method

#1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM>7mm, <7mm and FA/AF)

#2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to bequantified by gravimetric procedures. This screening level is not appli

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/03/2022 6:17:49 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Copper

General Statistics

Total Number of Observations	35	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	9	Mean	22.86
Maximum	170	Median	17
SD	26.51	Std. Error of Mean	4.481
Coefficient of Variation	1.16	Skewness	5.311

Normal GOF Test

Shapiro Wilk Test Statistic	0.389	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.934	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.323	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.148	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	30.43	95% Adjusted-CLT UCL (Chen-1995)	34.53
		95% Modified-t UCL (Johnson-1978)	31.1

Gamma GOF Test

A-D Test Statistic	2.738	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.757	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.215	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.15	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.525	k star (bias corrected MLE)	2.328
Theta hat (MLE)	9.051	Theta star (bias corrected MLE)	9.818
nu hat (MLE)	176.8	nu star (bias corrected)	163
MLE Mean (bias corrected)	22.86	MLE Sd (bias corrected)	14.98
		Approximate Chi Square Value (0.05)	134.4
Adjusted Level of Significance	0.0425	Adjusted Chi Square Value	133.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	27.7	95% Adjusted Gamma UCL (use when n<50)	27.96

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.836	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.934	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.15	**Lilliefors Lognormal GOF Test**

55	5% Lilliefors Critical Value					0.148	Data Not Lognormal at 5% Significance Level					
56	**Data Not Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					2.197	Mean of logged Data					2.918
60	Maximum of Logged Data					5.136	SD of logged Data					0.531
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					25.49	90% Chebyshev (MVUE) UCL					27.22
64	95% Chebyshev (MVUE) UCL					29.94	97.5% Chebyshev (MVUE) UCL					33.71
65	99% Chebyshev (MVUE) UCL					41.13						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data do not follow a Discernible Distribution (0.05)**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					30.23	95% Jackknife UCL					30.43
72	95% Standard Bootstrap UCL					30.32	95% Bootstrap-t UCL					47.4
73	95% Hall's Bootstrap UCL					58.98	95% Percentile Bootstrap UCL					31.37
74	95% BCA Bootstrap UCL					36.49						
75	90% Chebyshev(Mean, Sd) UCL					36.3	95% Chebyshev(Mean, Sd) UCL					42.39
76	97.5% Chebyshev(Mean, Sd) UCL					50.84	99% Chebyshev(Mean, Sd) UCL					67.44
77												
78	**Suggested UCL to Use**											
79	95% Chebyshev (Mean, Sd) UCL					42.39						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.11/03/2022 5:16:20 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead

General Statistics

Total Number of Observations	29	Number of Distinct Observations	21
		Number of Missing Observations	0
Minimum	4	Mean	29.59
Maximum	120	Median	24
SD	20.26	Std. Error of Mean	3.762
Coefficient of Variation	0.685	Skewness	3.417

Normal GOF Test

Shapiro Wilk Test Statistic	0.64	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.24	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.161	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	35.99	95% Adjusted-CLT UCL (Chen-1995)	38.32
		95% Modified-t UCL (Johnson-1978)	36.38

Gamma GOF Test

A-D Test Statistic	1.665	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.751	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.186	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.164	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	3.546	k star (bias corrected MLE)	3.202
Theta hat (MLE)	8.344	Theta star (bias corrected MLE)	9.24
nu hat (MLE)	205.7	nu star (bias corrected)	185.7
MLE Mean (bias corrected)	29.59	MLE Sd (bias corrected)	16.53
		Approximate Chi Square Value (0.05)	155.2
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	153.5

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	35.41	95% Adjusted Gamma UCL (use when n<50)	35.79

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.857	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.193	**Lilliefors Lognormal GOF Test**

55	5% Lilliefors Critical Value					0.161	Data Not Lognormal at 5% Significance Level					
56	**Data Not Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					1.386	Mean of logged Data					3.24
60	Maximum of Logged Data					4.787	SD of logged Data					0.548
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					36.42	90% Chebyshev (MVUE) UCL					38.94
64	95% Chebyshev (MVUE) UCL					43.22	97.5% Chebyshev (MVUE) UCL					49.17
65	99% Chebyshev (MVUE) UCL					60.84						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data do not follow a Discernible Distribution (0.05)**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					35.77	95% Jackknife UCL					35.99
72	95% Standard Bootstrap UCL					35.59	95% Bootstrap-t UCL					42.11
73	95% Hall's Bootstrap UCL					63.3	95% Percentile Bootstrap UCL					36.72
74	95% BCA Bootstrap UCL					38.66						
75	90% Chebyshev(Mean, Sd) UCL					40.87	95% Chebyshev(Mean, Sd) UCL					45.98
76	97.5% Chebyshev(Mean, Sd) UCL					53.08	99% Chebyshev(Mean, Sd) UCL					67.01
77												
78	**Suggested UCL to Use**											
79	95% Chebyshev (Mean, Sd) UCL					45.98						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.17/05/2021 4:51:56 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Nickel

General Statistics

Total Number of Observations	65	Number of Distinct Observations	19
Number of Detects	64	Number of Non-Detects	1
Number of Distinct Detects	19	Number of Distinct Non-Detects	1
Minimum Detect	1	Minimum Non-Detect	1
Maximum Detect	110	Maximum Non-Detect	1
Variance Detects	194.4	Percent Non-Detects	1.538%
Mean Detects	8.234	SD Detects	13.94
Median Detects	6	CV Detects	1.693
Skewness Detects	6.441	Kurtosis Detects	46.53
Mean of Logged Detects	1.696	SD of Logged Detects	0.789

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.388	**Normal GOF Test on Detected Observations Only**
5% Shapiro Wilk P Value	0	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.322	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.111	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	8.123	KM Standard Error of Mean	1.72
KM SD	13.76	95% KM (BCA) UCL	11.62
95% KM (t) UCL	10.99	95% KM (Percentile Bootstrap) UCL	11.15
95% KM (z) UCL	10.95	95% KM Bootstrap t UCL	15.79
90% KM Chebyshev UCL	13.28	95% KM Chebyshev UCL	15.62
97.5% KM Chebyshev UCL	18.86	99% KM Chebyshev UCL	25.23

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	3.066	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.772	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.196	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.114	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.356	k star (bias corrected MLE)	1.303
Theta hat (MLE)	6.071	Theta star (bias corrected MLE)	6.318
nu hat (MLE)	173.6	nu star (bias corrected)	166.8
Mean (detects)	8.234		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.01				Mean	8.108	
59					Maximum	110				Median	6	
60					SD	13.87				CV	1.711	
61					k hat (MLE)	1.152				k star (bias corrected MLE)	1.109	
62					Theta hat (MLE)	7.041				Theta star (bias corrected MLE)	7.313	
63					nu hat (MLE)	149.7				nu star (bias corrected)	144.1	
64					Adjusted Level of Significance (β)	0.0463						
65					Approximate Chi Square Value (144.13, α)	117.4				Adjusted Chi Square Value (144.13, β)	116.8	
66					95% Gamma Approximate UCL (use when n>=50)	9.955				95% Gamma Adjusted UCL (use when n<50)	10	
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69					Mean (KM)	8.123				SD (KM)	13.76	
70					Variance (KM)	189.2				SE of Mean (KM)	1.72	
71					k hat (KM)	0.349				k star (KM)	0.343	
72					nu hat (KM)	45.33				nu star (KM)	44.57	
73					theta hat (KM)	23.3				theta star (KM)	23.69	
74					80% gamma percentile (KM)	12.82				90% gamma percentile (KM)	23.53	
75					95% gamma percentile (KM)	35.57				99% gamma percentile (KM)	66.36	
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78					Approximate Chi Square Value (44.57, α)	30.26				Adjusted Chi Square Value (44.57, β)	29.99	
79					95% Gamma Approximate KM-UCL (use when n>=50)	11.97				95% Gamma Adjusted KM-UCL (use when n<50)	12.07	
80												
81	**Lognormal GOF Test on Detected Observations Only**											
82					Shapiro Wilk Approximate Test Statistic	0.951				**Shapiro Wilk GOF Test**		
83					5% Shapiro Wilk P Value	0.0276				Detected Data Not Lognormal at 5% Significance Level		
84					Lilliefors Test Statistic	0.111				**Lilliefors GOF Test**		
85					5% Lilliefors Critical Value	0.111				Detected Data Not Lognormal at 5% Significance Level		
86	**Detected Data Not Lognormal at 5% Significance Level**											
87												
88	**Lognormal ROS Statistics Using Imputed Non-Detects**											
89					Mean in Original Scale	8.119				Mean in Log Scale	1.665	
90					SD in Original Scale	13.87				SD in Log Scale	0.823	
91					95% t UCL (assumes normality of ROS data)	10.99				95% Percentile Bootstrap UCL	11.18	
92					95% BCA Bootstrap UCL	13.05				95% Bootstrap t UCL	15.7	
93					95% H-UCL (Log ROS)	9.219						
94												
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
96					KM Mean (logged)	1.67				KM Geo Mean	5.314	
97					KM SD (logged)	0.805				95% Critical H Value (KM-Log)	2.099	
98					KM Standard Error of Mean (logged)	0.101				95% H-UCL (KM -Log)	9.073	
99					KM SD (logged)	0.805				95% Critical H Value (KM-Log)	2.099	
100					KM Standard Error of Mean (logged)	0.101						
101												
102	**DL/2 Statistics**											
103	**DL/2 Normal**									**DL/2 Log-Transformed**		
104					Mean in Original Scale	8.115				Mean in Log Scale	1.66	
105					SD in Original Scale	13.87				SD in Log Scale	0.837	
106					95% t UCL (Assumes normality)	10.99				95% H-Stat UCL	9.329	
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												

	A	B	C	D	E	F	G	H	I	J	K	L
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Data do not follow a Discernible Distribution at 5% Significance Level**											
111												
112	**Suggested UCL to Use**											
113	95% KM (Chebyshev) UCL					15.62						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												
120	**B(a)P**											
121												
122	**General Statistics**											
123	Total Number of Observations					65	Number of Distinct Observations					10
124	Number of Detects					21	Number of Non-Detects					44
125	Number of Distinct Detects					10	Number of Distinct Non-Detects					1
126	Minimum Detect					0.05	Minimum Non-Detect					0.05
127	Maximum Detect					1.4	Maximum Non-Detect					0.05
128	Variance Detects					0.103	Percent Non-Detects					67.69%
129	Mean Detects					0.221	SD Detects					0.321
130	Median Detects					0.09	CV Detects					1.451
131	Skewness Detects					3.009	Kurtosis Detects					9.607
132	Mean of Logged Detects					-2.044	SD of Logged Detects					0.928
133												
134	**Normal GOF Test on Detects Only**											
135	Shapiro Wilk Test Statistic					0.56	**Shapiro Wilk GOF Test**					
136	5% Shapiro Wilk Critical Value					0.908	Detected Data Not Normal at 5% Significance Level					
137	Lilliefors Test Statistic					0.336	**Lilliefors GOF Test**					
138	5% Lilliefors Critical Value					0.188	Detected Data Not Normal at 5% Significance Level					
139	**Detected Data Not Normal at 5% Significance Level**											
140												
141	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
142	KM Mean					0.105	KM Standard Error of Mean					0.0248
143	KM SD					0.195	95% KM (BCA) UCL					0.158
144	95% KM (t) UCL					0.147	95% KM (Percentile Bootstrap) UCL					0.148
145	95% KM (z) UCL					0.146	95% KM Bootstrap t UCL					0.217
146	90% KM Chebyshev UCL					0.18	95% KM Chebyshev UCL					0.213
147	97.5% KM Chebyshev UCL					0.26	99% KM Chebyshev UCL					0.352
148												
149	**Gamma GOF Tests on Detected Observations Only**											
150	A-D Test Statistic					1.836	**Anderson-Darling GOF Test**					
151	5% A-D Critical Value					0.768	Detected Data Not Gamma Distributed at 5% Significance Level					
152	K-S Test Statistic					0.269	**Kolmogorov-Smirnov GOF**					
153	5% K-S Critical Value					0.195	Detected Data Not Gamma Distributed at 5% Significance Level					
154	**Detected Data Not Gamma Distributed at 5% Significance Level**											
155												
156	**Gamma Statistics on Detected Data Only**											
157	k hat (MLE)					1.071	k star (bias corrected MLE)					0.95
158	Theta hat (MLE)					0.206	Theta star (bias corrected MLE)					0.233
159	nu hat (MLE)					44.98	nu star (bias corrected)					39.89
160	Mean (detects)					0.221						
161												
162	**Gamma ROS Statistics using Imputed Non-Detects**											

163	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
164	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
165	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
166	This is especially true when the sample size is small.											
167	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
168					Minimum	0.01				Mean	0.0782	
169					Maximum	1.4				Median	0.01	
170					SD	0.205				CV	2.623	
171					k hat (MLE)	0.515				k star (bias corrected MLE)	0.501	
172					Theta hat (MLE)	0.152				Theta star (bias corrected MLE)	0.156	
173					nu hat (MLE)	66.9				nu star (bias corrected)	65.15	
174					Adjusted Level of Significance (β)	0.0463						
175					Approximate Chi Square Value (65.15, α)	47.57				Adjusted Chi Square Value (65.15, β)	47.23	
176					95% Gamma Approximate UCL (use when n>=50)	0.107				95% Gamma Adjusted UCL (use when n<50)	0.108	
177												
178	**Estimates of Gamma Parameters using KM Estimates**											
179					Mean (KM)	0.105				SD (KM)	0.195	
180					Variance (KM)	0.038				SE of Mean (KM)	0.0248	
181					k hat (KM)	0.291				k star (KM)	0.288	
182					nu hat (KM)	37.86				nu star (KM)	37.44	
183					theta hat (KM)	0.361				theta star (KM)	0.365	
184					80% gamma percentile (KM)	0.16				90% gamma percentile (KM)	0.312	
185					95% gamma percentile (KM)	0.488				99% gamma percentile (KM)	0.947	
186												
187	**Gamma Kaplan-Meier (KM) Statistics**											
188					Approximate Chi Square Value (37.44, α)	24.43				Adjusted Chi Square Value (37.44, β)	24.19	
189					95% Gamma Approximate KM-UCL (use when n>=50)	0.161				95% Gamma Adjusted KM-UCL (use when n<50)	0.163	
190												
191	**Lognormal GOF Test on Detected Observations Only**											
192					Shapiro Wilk Test Statistic	0.855				**Shapiro Wilk GOF Test**		
193					5% Shapiro Wilk Critical Value	0.908				Detected Data Not Lognormal at 5% Significance Level		
194					Lilliefors Test Statistic	0.229				**Lilliefors GOF Test**		
195					5% Lilliefors Critical Value	0.188				Detected Data Not Lognormal at 5% Significance Level		
196	**Detected Data Not Lognormal at 5% Significance Level**											
197												
198	**Lognormal ROS Statistics Using Imputed Non-Detects**											
199					Mean in Original Scale	0.0783				Mean in Log Scale	-4.163	
200					SD in Original Scale	0.205				SD in Log Scale	1.879	
201					95% t UCL (assumes normality of ROS data)	0.121				95% Percentile Bootstrap UCL	0.125	
202					95% BCA Bootstrap UCL	0.15				95% Bootstrap t UCL	0.184	
203					95% H-UCL (Log ROS)	0.179						
204												
205	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
206					KM Mean (logged)	-2.688				KM Geo Mean	0.068	
207					KM SD (logged)	0.68				95% Critical H Value (KM-Log)	1.996	
208					KM Standard Error of Mean (logged)	0.0865				95% H-UCL (KM -Log)	0.102	
209					KM SD (logged)	0.68				95% Critical H Value (KM-Log)	1.996	
210					KM Standard Error of Mean (logged)	0.0865						
211												
212	**DL/2 Statistics**											
213	**DL/2 Normal**									**DL/2 Log-Transformed**		
214					Mean in Original Scale	0.0883				Mean in Log Scale	-3.158	
215					SD in Original Scale	0.202				SD in Log Scale	0.933	
216					95% t UCL (Assumes normality)	0.13				95% H-Stat UCL	0.085	

	A	B	C	D	E	F	G	H	I	J	K	L
217	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
218												
219	**Nonparametric Distribution Free UCL Statistics**											
220	**Data do not follow a Discernible Distribution at 5% Significance Level**											
221												
222	**Suggested UCL to Use**											
223	95% KM (Chebyshev) UCL					0.213						
224												
225	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
226	Recommendations are based upon data size, data distribution, and skewness.											
227	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
228	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
229												

Extracted from DGA 1 (DP 2022a)

Douglas Partners
Geotechnics | Environment | Groundwater

Table F1: Summary of Laboratory Results – Site Assessment

				Metals								TRH						BTEX				PAH				Phenol				
				Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10) - (BTEX))	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene [b]	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ	Total PAHs	Phenol	DDD	DDT+DDE+DDD [c]	DDE	DDT
			PQL	4	0.4	1	1	1	0.1	1	1	25	50	25	50	100	100	0.2	0.5	1	1	0.1	0.05	0.5	0.05	5	0.1	0.1	0.1	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TP901	0 - 0.1 m	FILL	08/11/22	**6**	<0.4	**11**	**14**	**17**	<0.1	**2**	**7**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
BD1/20221108	0 m	FILL	08/11/22	**8**	<0.4	**4**	**35**	**24**	<0.1	**4**	**15**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP901 - [TRIPLICATE]	0 - 0.1 m	FILL	08/11/22	**5**	<0.4	**6**	**19**	**16**	<0.1	**2**	**18**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP901	0.4 - 0.5 m	FILL	08/11/22	**5**	<0.4	**14**	**12**	**17**	<0.1	**3**	**12**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP901	0.9 - 1 m	Natural	08/11/22	<4	<0.4	**4**	**7**	**12**	<0.1	<1	**2**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP902	0 - 0.1 m	FILL	08/11/22	**5**	<0.4	**17**	**16**	**19**	<0.1	**2**	**15**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP902	0.4 - 0.5 m	FILL	08/11/22	<4	<0.4	**19**	**9**	**18**	<0.1	**4**	**7**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP903	0 - 0.1 m	FILL	08/11/22	<4	<0.4	**8**	**14**	**15**	<0.1	**4**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP903	0.4 - 0.5 m	FILL	08/11/22	<4	<0.4	**6**	**19**	**15**	<0.1	**1**	**12**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP903	0.8 - 0.9 m	FILL	08/11/22	**5**	<0.4	**16**	**11**	**22**	<0.1	**4**	**8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP904	0 - 0.1 m	FILL	08/11/22	**6**	<0.4	**17**	**11**	**19**	<0.1	**1**	**6**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP904	0.4 - 0.5 m	FILL	08/11/22	**4**	<0.4	**13**	**10**	**16**	<0.1	**4**	**10**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
BD2/20221108	0.4 - 0.5 m	FILL	08/11/22	**6**	<1	**14**	**12**	**21**	<0.1	**4**	**10**	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP905	0 - 0.1 m	FILL	08/11/22	<4	<0.4	**15**	**11**	**6**	<0.1	**12**	**26**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP905 - [TRIPLICATE]	0 - 0.1 m	FILL	08/11/22	**5**	<0.4	**9**	**26**	**18**	<0.1	**5**	**62**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP905	0.4 - 0.5 m	FILL	08/11/22	<4	<0.4	**7**	**19**	**14**	<0.1	**4**	**30**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP905	0.9 - 1 m	Natural	08/11/22	<4	<0.4	**6**	**23**	**14**	<0.1	**5**	**36**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP906	0 - 0.1 m	FILL	08/11/22	**5**	<0.4	**11**	**20**	**22**	<0.1	**7**	**38**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP906	0.4 - 0.5 m	FILL	08/11/22	**5**	<0.4	**12**	**19**	**28**	<0.1	**7**	**36**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP907	0 - 0.1 m	FILL	09/11/22	**5**	<0.4	**10**	**17**	**22**	<0.1	**5**	**40**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.06**	<0.5	**0.3**	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP907	0.4 - 0.5 m	FILL	09/11/22	**4**	<0.4	**16**	**12**	**19**	<0.1	**5**	**25**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP907	0.9 - 1 m	Natural	09/11/22	**6**	<0.4	**14**	**18**	**14**	<0.1	**5**	**61**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP908	0 - 0.1 m	FILL	09/11/22	<4	<0.4	**8**	**13**	**13**	<0.1	**4**	**27**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP908	0.6 - 0.7 m	FILL	09/11/22	**5**	<0.4	**13**	**13**	**24**	<0.1	**5**	**19**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP909	0 - 0.1 m	FILL	09/11/22	<4	<0.4	**8**	**10**	**7**	<0.1	**4**	**21**	<25	<50	<25	<50	**160**	**110**	<0.2	<0.5	<1	<1	<0.1	**0.3**	<0.5	**4**	<5	<0.1	<0.1	<0.1	<0.1
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP909	0.35 - 0.45 m	FILL	09/11/22	**4**	<0.4	**16**	**10**	**19**	<0.1	**3**	**8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.1**	<0.5	**0.2**	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP910	0 - 0.1 m	FILL	09/11/22	**5**	<0.4	**13**	**13**	**30**	<0.1	**5**	**15**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	**0.2**	<0.5	**0.83**	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
BD1/20221109	0 m	FILL	09/11/22	**4**	<0.4	**12**	**11**	**20**	<0.1	**4**	**8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP910	0.6 - 0.7 m	Natural	09/11/22	**100**	<0.4	**12**	**19**	**25**	<0.1	**1**	**7**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180
TP911	0 - 0.1 m	FILL	09/11/22	**4**	<0.4	**19**	**15**	**21**	<0.1	**12**	**47**	<25	**60**	<25	**60**	**150**	<100	<0.2	<0.5	<1	<1	<0.1	<0.05	<0.5	<0.05	-	-	-	-	-
				100 100	20 -	100 410	6000 180	300 1100	40 -	400 100	7400 400	- -	- 120	50 180	280 -	- 1300	- 5600	0.7 65	480 105	NL 125	110 45	5 170	- 0.7	3 -	300 -	100 -	- -	- 240	180 -	- 180

Lab result

HIL/HSL value EIL/ESL value

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report Blue = DC exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Ecological criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Residential A with garden/accessible soil

HIL A	Residential / Low - High Density (NEPC, 2013)
HSL A/B	Residential / Low - High Density (vapour intrusion) (NEPC, 2013)
DC HSL A	Direct contact HSL A Residential (Low density) (direct contact) (CRC CARE, 2011)
EIL/ESL UR/POS	Urban Residential and Public Open Space (NEPC, 2013)
ML R/P/POS	Residential, Parkland and Public Open Space (NEPC, 2013)

Extracted from DGA 1 (DP 2022a)

Douglas Partners
Geotechnics | Environment | Groundwater

Table F1: Summary of Laboratory Results – Site Assessment

				OCP							OPP	PCB								Asbestos							
				Aldrin & Dieldrin	Total Chlordane	Endrin	Total Endosulfan	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyriphos	Aroclor 1016	Total PCB	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Asbestos ID in material	Asbestos ID in soil >0.1g/kg	Trace Analysis	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Total Asbestos#1
			PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1							<0.001	<0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	-	g	g	%(w/w)	g/kg
TP901	0 - 0.1 m	FILL	08/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
BD1/20221108	0 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP901 - [TRIPLICATE]	0 - 0.1 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP901	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP901	0.9 - 1 m	Natural	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP902	0 - 0.1 m	FILL	08/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP902	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP903	0 - 0.1 m	FILL	08/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NAD	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP903	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP903	0.8 - 0.9 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP904	0 - 0.1 m	FILL	08/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP904	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
BD2/20221108	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP905	0 - 0.1 m	FILL	08/11/22	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP905 - [TRIPLICATE]	0 - 0.1 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP905	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP905	0.9 - 1 m	Natural	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP906	0 - 0.1 m	FILL	08/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP906	0.4 - 0.5 m	FILL	08/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP907	0 - 0.1 m	FILL	09/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP907	0.4 - 0.5 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP907	0.9 - 1 m	Natural	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP908	0 - 0.1 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP908	0.6 - 0.7 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP909	0 - 0.1 m	FILL	09/11/22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP909	0.35 - 0.45 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP910	0 - 0.1 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
BD1/20221109	0 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP910	0.6 - 0.7 m	Natural	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								
TP911	0 - 0.1 m	FILL	09/11/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	NAD	-	-	<0.001	<0.1
				6 -	50 -	10 -	270 -	6 -	10 -	300 -	160 -	- -	-	1 -	- -	- -	- -	- -	- -								

Lab result

HIL/HSL value EIL/ESL value

Notes:

a QA/QC replicate of sample listed directly below the primary sample

b Reported naphthalene laboratory result obtained from BTEXN suite

c Ecological criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Residential A with garden/accessible soil

HIL A	Residential / Low - High Density (NEPC, 2013)
HSL A/B	Residential / Low - High Density (vapour intrusion) (NEPC, 2013)
DC HSL A	Direct contact HSL A Residential (Low density) (direct contact) (CRC CARE, 2011)
EIL/ESL UR/POS	Urban Residential and Public Open Space (NEPC, 2013)
ML R/P/POS	Residential, Parkland and Public Open Space (NEPC, 2013)

Douglas PARTNERS

Table F1: Summary of Laboratory Results – Site Assessment Criteria

				Priority metals								Priority PAH				Priority TRH						BTEX				Priority phenol		
				Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Naphthalene [b]	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10) - BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Phenolics	Total Chlordane	Total Endosulfan
			PQL	4	0.4	1	1	1	0.1	1	1	1	0.05	0.5	0.05	25	50	25	50	100	100	0.2	0.5	1	1	5	0.1	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Site Assessment Criteria - Commerical Land Use																												
HIL A				100	20	100	6000	300	40	400	7400	3	-	3	300	-	-	45	110	-	-	0.5	160	55	40	100	50	270
HSL A&B				-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	0.7	480	NL	110	-	-	-
EIL/ESL				-	-	410	65	1100	-	35	190	170	0.7	-	-	-	-	180	120	1300	5600	65	105	125	45	-	-	-
Management Limit																800	1000			3500	10,000							
Direct Contact A												1400				4400	3300			4500	6300	100	14000	4500	12000	3000		
Laboratory Results																												
TP1001	0 - 0.2 m	Fill	30/11/23	**4**	<0.4	**14**	**47**	**15**	<0.1	**6**	**57**	<1	**0.08**	<0.5	**0.3**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1001	0.3 - 0.4 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1001	1.1 - 1.2 m	Fill	30/11/23	**5**	<0.4	**20**	**13**	**17**	<0.1	**9**	**21**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1001	2 - 2.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1002	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1002	0.5 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1002	1.10 - 1.20 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1003	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1003	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1004	0 - 0.5 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1004	1 - 1.3 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1005	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1005	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1006	0.1 - 0.3 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table F1: Summary of Laboratory Results – Site Assessment Criteria

				Priority metals								Priority PAH				Priority TRH						BTEX				Priority phenol		
				Total Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Naphthalene [b]	Benzo(a)pyrene (B(a)P)	Benzo(a)pyrene TEQ (B(a)P TEQ)	Total PAH	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total Phenolics	Total Chlordane	Total Endosulfan
			PQL	4	0.4	1	1	1	0.1	1	1	1	0.05	0.5	0.05	25	50	25	50	100	100	0.2	0.5	1	1	5	0.1	0.1
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Site Assessment Criteria - Commerical Land Use																												
HIL A				100	20	100	6000	300	40	400	7400	3	-	3	300	-	-	45	110	-	-	0.5	160	55	40	100	50	270
HSL A&B				-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	0.7	480	NL	110	-	-	-
EIL/ESL				-	-	410	65	1100	-	35	190	170	0.7	-	-	-	-	180	120	1300	5600	65	105	125	45	-	-	-
Management Limit																800	1000			3500	10,000							
Direct Contact A												1400				4400	3300			4500	6300	100	14000	4500	12000	3000		
TP1006	0.6 - 0.8 m	Fill	01/12/23	**9**	<0.4	**17**	**19**	**20**	<0.1	**8**	**25**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1006	0.9 - 1 m	Clay	01/12/23	**7**	<0.4	**8**	**20**	**16**	<0.1	**1**	**12**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
BD2/20231130	0 m	Fill	30/11/23	**11**	<0.4	**7**	**21**	**19**	<0.1	**2**	**14**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1007	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1007	0.6 - 0.7 m	Fill	30/11/23	**6**	<0.4	**14**	**33**	**21**	<0.1	**17**	**39**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1007	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0.4 - 0.5 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0.9 - 1 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0.9 - 1 m	Material	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	1.6 - 1.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	2.6 - 2.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1009	0 - 0.1 m	Fill	30/11/23	**5**	<0.4	**12**	**40**	**35**	<0.1	**8**	**66**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1009	0 - 0.1 m	Material	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1009	0.6 - 0.7 m	Fill	30/11/23	<4	<0.4	**8**	**5**	**10**	<0.1	**3**	**11**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1009	1.3 - 1.4 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1010	0 - 0.1 m	Fill	01/12/23	**5**	<0.4	**12**	**7**	**14**	<0.1	**3**	**25**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1010	0.4 - 0.6 m	Fill	01/12/23	**10**	<0.4	**17**	**18**	**17**	<0.1	**3**	**17**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1011	0 - 0.2 m	Fill	01/12/23	**6**	<0.4	**12**	**19**	**20**	<0.1	**6**	**39**	<1	**0.07**	<0.5	**0.07**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
BD01/20231201	0 - 0.2 m	Fill	30/11/23	**5**	<0.4	**11**	**20**	**24**	<0.1	**6**	**42**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1011 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	**5**	<0.4	**14**	**20**	**20**	<0.1	**6**	**50**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1011	0.6 - 0.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1012	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1012	0.4 - 0.5 m	Fill	01/12/23	**4**	<0.4	**16**	**32**	**29**	<0.1	**6**	**32**	<1	<0.05	<0.5	**0.3**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1013	0 - 0.2 m	Fill	01/12/23	**5**	<0.4	**12**	**16**	**23**	<0.1	**5**	**51**	<1	**0.2**	<0.5	**0.72**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1013	0.2 - 0.4 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1014	0 - 0.1 m	Fill	30/11/23	**7**	<0.4	**17**	**19**	**27**	<0.1	**4**	**31**	<1	**0.1**	<0.5	**0.2**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1015	0 - 0.1 m	Fill	30/11/23	**9**	<0.4	**15**	**21**	**21**	<0.1	**4**	**18**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
BD3/20231130	0 - 0.1 m	Fill	30/11/23	**12**	<1	**22**	**24**	**25**	<0.1	**10**	**48**	<1	<0.5	<0.5	<0.5	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-	-	-
TP1015 - [TRIPLICATE]	0 - 0.1 m	Fill	30/11/23	**10**	<0.4	**20**	**23**	**23**	<0.1	**8**	**29**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1016	0 - 0.2 m	Fill	01/12/23	**4**	<0.4	**11**	**23**	**15**	<0.1	**5**	**42**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1016 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	**4**	<0.4	**10**	**20**	**17**	<0.1	**6**	**43**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1016	0.4 - 0.6 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1017	0 - 0.1 m	Fill	30/11/23	**5**	<0.4	**13**	**22**	**58**	<0.1	**7**	**69**	<1	**0.1**	<0.5	**1.4**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1018	0 - 0.1 m	Fill	30/11/23	<4	<0.4	**15**	**35**	**19**	<0.1	**12**	**64**	<1	**0.4**	**0.6**	**4.2**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1018	0.6 - 0.7 m	Fill	30/11/23	**18**	<0.4	**19**	**22**	**15**	<0.1	**5**	**26**	<1	**0.08**	<0.5	**0.5**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1019	0 - 0.1 m	Fill	30/11/23	**8**	<0.4	**20**	**14**	**23**	<0.1	**6**	**22**	<1	**0.3**	<0.5	**2.8**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1020	0 - 0.2 m	Fill	30/11/23	**10**	<0.4	**17**	**19**	**25**	<0.1	**2**	**24**	<1	**0.05**	<0.5	**0.2**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1
TP1020	0.6 - 0.7 m	Fill	30/11/23	**7**	<0.4	**4**	**21**	**14**	<0.1	**1**	**17**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
BD1/20231130	0.6 - 0.7 m	Fill	30/11/23	<5	<1	**7**	**35**	**17**	<0.1	**2**	**25**	<1	<0.5	<0.5	<0.5	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	-	-	-
TP1021	0 - 0.1 m	Fill	30/11/23	**8**	<0.4	**24**	**16**	**30**	<0.1	**5**	**18**	<1	**0.2**	<0.5	**2.9**	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	-	-	-
TP1021	0.7 - 0.8 m	Fill	30/11/23	**39**	<0.4	**23**	**14**	**19**	<0.1	**3**	**7**	<1	<0.05	<0.5	<0.05	<25	<50	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<5	<0.1	<0.1

Notes:

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance ML exceedance ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report **Blue** = DC exceedance **Red** = EGV-indirect exceedance HSL 0-<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Residential A with garden/accessible soil

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

Table F1: Summary of Laboratory Results – Site Assessment Criteria

										OCPs	Priority OPP	OPP	PCB	Asbestos (FA/AF)				Asbestos, Other						
				Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Mirex	All Other OCPs	Chlorpyriphos	All Other OPPs	Total PCB	Asb_Sample_mass	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos ID in soil >0.1g/kg	Trace Analysis (AS)	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil <0.1g/kg	Trace Analysis (NEPC)	Total Asbestos#1	Asbestos ID in materials
			PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1				0.001						0.1	
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	g	g	%(w/w)	-	-	-	-	-	g/kg	-
Site Assessment Criteria - Commerical Land U																							
HIL A				10	6	10	300	10	-	160	-	1	-	-	-	0.001	0.001	-	-	-	-	-	-
HSL A&B				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EIL/ESL				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limit																							
Direct Contact A																							
Laboratory Results																							
TP1001	0 - 0.2 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**702.3**	-	**0.0001**	<0.001	-	-	NAD	**Detected**	NAD	<0.1	-
TP1001	0.3 - 0.4 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**606.32**	-	**0.0023**	<0.001	-	-	NAD	**Detected**	NAD	<0.1	-
TP1001	1.1 - 1.2 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**739**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1001	2 - 2.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**676.22**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1002	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**306.75**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1002	0.5 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**586.65**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1002	1.10 - 1.20 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**582.39**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1003	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**692.4**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1003	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
TP1004	0 - 0.5 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**656.11**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1004	1 - 1.3 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**548.88**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1005	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**732.67**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1005	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	**582.02**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1006	0.1 - 0.3 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**863.32**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-

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Table F1: Summary of Laboratory Results – Site Assessment Criteria

										OCPs	Priority OPP	OPP	PCB	Asbestos (FA/AF)				Asbestos, Other						
				Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Mirex	All Other OCPs	Chlorpyriphos	All Other OPPs	Total PCB	Asb_Sample_mass	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Asbestos ID in soil >0.1g/kg	Trace Analysis (AS)	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil <0.1g/kg	Trace Analysis (NEPC)	Total Asbestos#1	Asbestos ID in materials
			PQL	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1				0.001						0.1	
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	g	g	%(w/w)	-	-	-	-	-	g/kg	-
Site Assessment Criteria - Commerical Land Us																							
HIL A				10	6	10	300	10	-	160	-	1	-	-	-	0.001	0.001	-	-	-	-	-	-
HSL A&B				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EIL/ESL				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limit																							
Direct Contact A																							
TP1006	0.6 - 0.8 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1006	0.9 - 1 m	Clay	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD2/20231130	0 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1007	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**824.25**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1007	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1007	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	**564.83**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1008	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**776.21**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1008	0.4 - 0.5 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**726.98**	-	**0.4677**	**0.0643**	-	-	**Detected**	NAD	NAD	**0.6433**	-
TP1008	0.9 - 1 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**743.89**	-	-	<0.001	-	NAD	NAD	NAD	NAD	<0.1	
TP1008	0.9 - 1 m	Material	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Detected**
TP1008	1.6 - 1.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**731.88**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1008	2.6 - 2.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**597.53**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1009	0 - 0.1 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**736.61**	-	-	<0.001	-	NAD	NAD	NAD	NAD	<0.1	-
TP1009	0 - 0.1 m	Material	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Detected**
TP1009	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	NAD	NAD	-	-	-	-	-
TP1009	1.3 - 1.4 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	**714**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1010	0 - 0.1 m	Fill	01/12/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**764.09**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1010	0.4 - 0.6 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**728.06**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1011	0 - 0.2 m	Fill	01/12/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**840.42**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
BD01/20231201	0 - 0.2 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-
TP1011 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1011	0.6 - 0.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**815.05**	**0.0962**	-	<0.001	-	-	**Detected**	NAD	NAD	**0.1180**	-
TP1012	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**701.06**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1012	0.4 - 0.5 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**755.39**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1013	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**772.92**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1013	0.2 - 0.4 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**644.77**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1014	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**647.58**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1015	0 - 0.1 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**581.49**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
BD3/20231130	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1015 - [TRIPLICATE]	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1016	0 - 0.2 m	Fill	01/12/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**789.26**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1016 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1016	0.4 - 0.6 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	**719.63**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1017	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**690.47**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1018	0 - 0.1 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**808.66**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1018	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**838.57**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1019	0 - 0.1 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**626.25**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1020	0 - 0.2 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**637.4**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1020	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD1/20231130	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1021	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	**640.4**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-
TP1021	0.7 - 0.8 m	Fill	30/11/23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**535.46**	-	-	<0.001	-	-	NAD	NAD	NAD	<0.1	-

Notes:

HIL/HSL exceedance EIL/ESL exceedance HIL/HSL and EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level EGV = Environmental Guideline Value ML = Management Limit DC = Direct Contact HSL

a QA/QC replicate of sample listed directly below the primary sample

b Naphthalene reported as highest detection from the BTEXN or PAH suite, or if both results <PQL as lowest PQL

c EIL criteria applies to DDT only

Site Assessment Criteria (SAC):

SAC based on generic land use thresholds for Residential A with garden/accessible soil

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

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Table F2: Summary of Laboratory Results – Waste Classification Assessment

				Metals						TRH		BTEX				PAH		Phenols	OCP				OPP	PCB	
				Total Arsenic	Cadmium	Total Chromium	Lead	Mercury (inorganic)	Nickel	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Total Xylenes	Benzo(a)pyrene (B(a)P)	Total PAH	Total Phenolics	Scheduled Chemical Waste (standard)	Total Endosulfan	Total Analysed OCP	Mirex	Total Analysed OPP	Total PCB	Asbestos ID in materials
			PQL	4	0.4	1	1	0.1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.1	0.1	
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Waste Classification Criteria [f]																									
CT1				100	20	100	100	4	40	-	10,000	10	288	600	1000	0.8	200	288	<50	60	-	-	4	<50	-
SCC1				500	100	1,900	1,500	50	1,050	-	10,000	18	518	1,080	1,800	10	200	518	<50	108	-	-	7.5	<50	-
TCLP1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laboratory Results																									
TP1001	0 - 0.2 m	Fill	30/11/23	**4**	<0.4	**14**	**15**	<0.1	**6**	<25	<50	<0.2	<0.5	<1	<1	**0.08**	**0.3**	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1001	0.3 - 0.4 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1001	1.1 - 1.2 m	Fill	30/11/23	**5**	<0.4	**20**	**17**	<0.1	**9**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
TP1001	2 - 2.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1002	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1002	0 - 0.5 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1002	0.6 - 1.2 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1003	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1003	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1004	0 - 0.5 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1004	1 - 1.3 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1005	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1005	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1005	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1005	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1007	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1007	0.6 - 0.7 m	Fill and Material	30/11/23	**6**	<0.4	**14**	**21**	<0.1	**17**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
TP1007	1 - 1.1 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1009	0 - 0.1 m	Fill	30/11/23	**5**	<0.4	**12**	**35**	<0.1	**8**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**Detected**
TP1009	0.6 - 0.7 m	Fill	30/11/23	<4	<0.4	**8**	**10**	<0.1	**3**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
TP1009	1.3 - 1.4 m	Clay	30/11/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1014	0 - 0.1 m	Fill	30/11/23	**7**	<0.4	**17**	**27**	<0.1	**4**	<25	<50	<0.2	<0.5	<1	<1	**0.1**	**0.2**	-	-	-	-	-	-	-	-
TP1015	0 - 0.1 m	Fill	30/11/23	**9**	<0.4	**15**	**21**	<0.1	**4**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
BD3/20231130	0 m	Fill	30/11/23	**12**	<1	**22**	**25**	<0.1	**10**	<10	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
TP1017	0 - 0.1 m	Fill	30/11/23	**5**	<0.4	**13**	**58**	<0.1	**7**	<25	<50	<0.2	<0.5	<1	<1	**0.1**	**1.4**	-	-	-	-	-	-	-	-
TP1018	0 - 0.1 m	Fill	30/11/23	<4	<0.4	**15**	**19**	<0.1	**12**	<25	<50	<0.2	<0.5	<1	<1	**0.4**	**4.2**	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1018	0.6 - 0.7 m	Fill	30/11/23	**18**	<0.4	**19**	**15**	<0.1	**5**	<25	<50	<0.2	<0.5	<1	<1	**0.08**	**0.5**	-	-	-	-	-	-	-	-
TP1019	0 - 0.1 m	Fill	30/11/23	**8**	<0.4	**20**	**23**	<0.1	**6**	<25	<50	<0.2	<0.5	<1	<1	**0.3**	**2.8**	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1020	0 - 0.2 m	Fill	30/11/23	**10**	<0.4	**17**	**25**	<0.1	**2**	<25	<50	<0.2	<0.5	<1	<1	**0.05**	**0.2**	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1020	0.6 - 0.7 m	Fill	30/11/23	**7**	<0.4	**4**	**14**	<0.1	**1**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
BD1/20231130	0 m	Fill	30/11/23	<5	<1	**7**	**17**	<0.1	**2**	<10	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
TP1021	0 - 0.1 m	Fill	30/11/23	**8**	<0.4	**24**	**30**	<0.1	**5**	<25	<50	<0.2	<0.5	<1	<1	**0.2**	**2.9**	-	-	-	-	-	-	-	-

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Table F2: Summary of Laboratory Results – Waste Classification Assessment

				Metals						TRH		BTEX				PAH		Phenols	OCP				OPP	PCB	
				Total Arsenic	Cadmium	Total Chromium	Lead	Mercury (inorganic)	Nickel	TRH C6 - C9	TRH C10-C36	Benzene	Toluene	Ethylbenzene	Total Xylenes	Benzo(a)pyrene (B(a)P)	Total PAH	Total Phenolics	Scheduled Chemical Waste (standard)	Total Endosulfan	Total Analysed OCP	Mirex	Total Analysed OPP	Total PCB	Asbestos ID in materials
			PQL	4	0.4	1	1	0.1	1	25	50	0.2	0.5	1	1	0.05	0.05	5	0.1	0.1	0.1	0.1	0.1	0.1	
Sample ID	Depth	Soil Matrix	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Waste Classification Criteria [f]																									
CT1				100	20	100	100	4	40	-	10,000	10	288	600	1000	0.8	200	288	<50	60	-	-	4	<50	-
SCC1				500	100	1,900	1,500	50	1,050	-	10,000	18	518	1,080	1,800	10	200	518	<50	108	-	-	7.5	<50	-
TCLP1				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laboratory Results																									
TP1021	0.7 - 0.8 m	Fill	30/11/23	**39**	<0.4	**23**	**19**	<0.1	**3**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1012	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1012	0.4 - 0.5 m	Fill	01/12/23	**4**	<0.4	**16**	**29**	<0.1	**6**	<25	<50	<0.2	<0.5	<1	<1	<0.05	**0.3**	-	-	-	-	-	-	-	-
TP1013	0 - 0.2 m	Fill	01/12/23	**5**	<0.4	**12**	**23**	<0.1	**5**	<25	<50	<0.2	<0.5	<1	<1	**0.2**	**0.72**	-	-	-	-	-	-	-	-
TP1013	0.2 - 0.4 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0.4 - 0.5 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	0.9 - 1 m	Fill and Material	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**Detected**
TP1008	1.6 - 1.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1008	2.6 - 2.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1011	0 - 0.2 m	Fill	01/12/23	**6**	<0.4	**12**	**20**	<0.1	**6**	<25	<50	<0.2	<0.5	<1	<1	**0.07**	**0.07**	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1011	0.6 - 0.7 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BD01/20231201	0 m	Fill	30/11/23	**5**	<0.4	**11**	**24**	<0.1	**6**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1010	0 - 0.1 m	Fill	01/12/23	**5**	<0.4	**12**	**14**	<0.1	**3**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1010	0.4 - 0.6 m	Fill	01/12/23	**10**	<0.4	**17**	**17**	<0.1	**3**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
TP1016	0 - 0.2 m	Fill	01/12/23	**4**	<0.4	**11**	**15**	<0.1	**5**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
TP1016	0.4 - 0.6 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1006	0.1 - 0.3 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1006	0.6 - 0.8 m	Fill	01/12/23	**9**	<0.4	**17**	**20**	<0.1	**8**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
TP1006	0.9 - 1 m	Clay	01/12/23	**7**	<0.4	**8**	**16**	<0.1	**1**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
BD2/20231130	0 m	Fill	30/11/23	**11**	<0.4	**7**	**19**	<0.1	**2**	<25	<50	<0.2	<0.5	<1	<1	<0.05	<0.05	-	-	-	-	-	-	-	-
TP1015 - [TRIPLICATE]	0 - 0.1 m	Fill	30/11/23	**10**	<0.4	**20**	**23**	<0.1	**8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1011 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	**5**	<0.4	**14**	**20**	<0.1	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1016 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	**4**	<0.4	**10**	**17**	<0.1	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance TCLP2 and/or SCC2 exceedance Asbestos detection

- = Not tested, no criteria or not applicable NAD = no asbestos detected

a	QA/QC replicate of sample listed directly below the primary sample
b	Total chromium used as initial screen for chromium(VI).
c	Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)
d	Criteria for scheduled chemicals used as an initial screen
e	Criteria for Chlorpyrifos used as initial screen
f	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste
PQL	Practical quantitation limit
CT1	Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste
SCC1	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
TCLP1	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste

Table F2: Summary of Laboratory Results – Waste Classification Assessment

				Asbestos										
				Asbestos ID in soil >0.1g/kg	Trace Analysis (AS)	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil <0.1g/kg	Trace Analysis (NEPC)	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Total Asbestos#1	Asbestos Comment	Asbestos Summary
			PQL								0.001	0.1		0.001
Sample ID	Depth	Soil Matrix	Sample Date	-	-	-	-	-	g	g	%(w/w)	g/kg	-	
Waste Classification Criteria [f]														
CT1				-	-	-	-	-	-	-	-	-	-	-
SCC1				-	-	-	-	-	-	-	-	-	-	-
TCLP1				-	-	-	-	-	-	-	-	-	-	-
Laboratory Results														
TP1001	0 - 0.2 m	Fill	30/11/23	-	-	NAD	**Detected**	NAD	–	**0.0001**	<0.001	<0.1	-	**Detected**
TP1001	0.3 - 0.4 m	Fill	30/11/23	-	-	NAD	**Detected**	NAD	–	**0.0023**	<0.001	<0.1	-	**Detected**
TP1001	1.1 - 1.2 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1001	2 - 2.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1002	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1002	0 - 0.5 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1002	0.6 - 1.2 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1003	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1003	0.6 - 0.7 m	Fill	30/11/23	NAD	NAD	-	-	-	-	-	-	-	**NO**	-
TP1004	0 - 0.5 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1004	1 - 1.3 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1005	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1005	1 - 1.1 m	Clay	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1005	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1005	1 - 1.1 m	Clay	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1007	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1007	0.6 - 0.7 m	Fill and Material	30/11/23	-	-	-	-	-	-	-	-	-	-	-
TP1007	1 - 1.1 m	Clay	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1009	0 - 0.1 m	Fill	30/11/23	-	NAD	NAD	NAD	NAD	–	–	<0.001	<0.1	-	**Detected**
TP1009	0.6 - 0.7 m	Fill	30/11/23	NAD	NAD	-	-	-	-	-	-	-	**NO**	-
TP1009	1.3 - 1.4 m	Clay	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1014	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1015	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
BD3/20231130	0 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-
TP1017	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1018	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1018	0.6 - 0.7 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1019	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1020	0 - 0.2 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1020	0.6 - 0.7 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-
BD1/20231130	0 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-
TP1021	0 - 0.1 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-

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Table F2: Summary of Laboratory Results – Waste Classification Assessment

				Asbestos										
				Asbestos ID in soil >0.1g/kg	Trace Analysis (AS)	Asbestos ID in soil >0.1g/kg	Asbestos ID in soil <0.1g/kg	Trace Analysis (NEPC)	ACM >7mm Estimation	FA and AF Estimation	FA and AF Estimation	Total Asbestos#1	Asbestos Comment	Asbestos Summary
			PQL								0.001	0.1		0.001
Sample ID	Depth	Soil Matrix	Sample Date	-	-	-	-	-	g	g	%(w/w)	g/kg	-	
Waste Classification Criteria [f]														
CT1				-	-	-	-	-	-	-	-	-	-	-
SCC1				-	-	-	-	-	-	-	-	-	-	-
TCLP1				-	-	-	-	-	-	-	-	-	-	-
Laboratory Results														
TP1021	0.7 - 0.8 m	Fill	30/11/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1012	0 - 0.2 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1012	0.4 - 0.5 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1013	0 - 0.2 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1013	0.2 - 0.4 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1008	0 - 0.2 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1008	0.4 - 0.5 m	Fill	01/12/23	-	-	**Detected**	NAD	NAD	–	**0.4677**	**0.0643**	**0.6433**	-	**Detected**
TP1008	0.9 - 1 m	Fill and Material	01/12/23	-	NAD	NAD	NAD	NAD	–	–	<0.001	<0.1	-	**Detected**
TP1008	1.6 - 1.7 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1008	2.6 - 2.7 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1011	0 - 0.2 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1011	0.6 - 0.7 m	Fill	01/12/23	-	-	**Detected**	NAD	NAD	**0.0962**	–	<0.001	**0.1180**	-	**Detected**
BD01/20231201	0 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-
TP1010	0 - 0.1 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1010	0.4 - 0.6 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1016	0 - 0.2 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1016	0.4 - 0.6 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1006	0.1 - 0.3 m	Fill	01/12/23	-	-	NAD	NAD	NAD	–	–	<0.001	<0.1	-	-
TP1006	0.6 - 0.8 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-
TP1006	0.9 - 1 m	Clay	01/12/23	-	-	-	-	-	-	-	-	-	-	-
BD2/20231130	0 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-
TP1015 - [TRIPLICATE]	0 - 0.1 m	Fill	30/11/23	-	-	-	-	-	-	-	-	-	-	-
TP1011 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-
TP1016 - [TRIPLICATE]	0 - 0.2 m	Fill	01/12/23	-	-	-	-	-	-	-	-	-	-	-

Notes:

CT1 exceedance TCLP1 and/or SCC1 exceedance CT2 exceedance

- = Not tested, no criteria or not applicable NAD = no asbestos detected

a	QA/QC replicate of sample listed directly below the primary sample
b	Total chromium used as initial screen for chromium(VI).
c	Total recoverable hydrocarbons (TRH) used as an initial screen for total petroleum hydrocarbons (TPH)
d	Criteria for scheduled chemicals used as an initial screen
e	Criteria for Chlorpyrifos used as initial screer
f	NSW EPA, 2014, Waste Classification Guidelines Part 1; Classifying Waste
PQL	Practical quantitation limit
CT1	Maximum values of specific contaminant concentration (SCC) for classification without TCLP: General solid waste
SCC1	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste
TCLP1	Maximum values for leachable concentration (TCLP) and specific contaminant concentration (SCC) when used together: General solid waste

Project:	Cumberland Cluster	**ACM Asbestos Content % (w/w):**	15
Project No:	86976.06	**Land Use:**	**HSL-A Residential with access to soil**
Location:	59-73 Felton Road and 183 Pennant Hills Road, Carlingford NSW	**Bonded ACM Criterion**	**0.01**
		FA/AF Criterion	**0.001**

Table F3: Summary Results for Field Asbestos Sieving and Laboratory Analysis of Fribous Asbestos and Asbestos Fines

Sample ID / Test Location ID	Sample Depth Range (m bgl)	Weight of 10L Bulk Sample (g)	Approx. No. Fragments > 7mm	Condition of Fragments (good/poor)	Approx. Size of Largest Fragment (mm)	Weight of Screened ACM (g)	Concentration of Asbestos in Soil (% w/w)	Laboratory Concentration of FA/AF in Soil (% w/w)
TP1001	0-0.2	12800	0	N/A	N/A	0	-	0.000014**
TP1001	0.2-1.0	12100	0	N/A	N/A	0	-	0.00038**
TP1001	1.0-2.0	12600	0	N/A	N/A	0	-	<0.001
TP1001	2-2.7	12500	0	N/A	N/A	0	-	<0.001
TP1002	0-0.1	12100	0	N/A	N/A	0	-	<0.001
TP1002	0.1-1.0	11800	0*	N/A	N/A	0*	-	<0.001
TP1002	1.0-1.6	12400	0	N/A	N/A	0	-	<0.001
TP1002	1.6-2.0	12800	0	N/A	N/A	0	-	<0.001
TP1003	0-0.1	11900	0	N/A	N/A	0	-	<0.001
TP1003	0.1-0.9	12100	0	N/A	N/A	0	-	<0.001
TP1004	0-0.1	12300	0	N/A	N/A	0	-	<0.001
TP1004	0.1-0.9	12700	0	N/A	N/A	0	-	<0.001
TP1004	0.9-1.3	12400	0	N/A	N/A	0	-	<0.001
TP1005	0-0.1	12500	0	N/A	N/A	0	-	<0.001
TP1005	0.1-0.9	12300	0	N/A	N/A	0	-	<0.001
TP1005	0.9-1.2	11900	0	N/A	N/A	0	-	<0.001
TP1006	0.02-0.3	12131	0	N/A	N/A	0	-	<0.001
TP1006	0.3-0.8	11948	0	N/A	N/A	0	-	<0.001
TP1007	0-0.1	12600	0	N/A	N/A	0	-	<0.001
TP1007	0.1-0.9	12800	0	N/A	N/A	0	-	<0.001
TP1007	0.9-1.2	12500	0	N/A	N/A	0	-	<0.001
TP1008	0-0.4	12137	0	N/A	N/A	0	-	<0.001
TP1008	0.4-0.9	11937	0	N/A	N/A	0	-	0.0643***
TP1008	0.9-1.6	12631	1	Poor	100 x 50 x5	16	**0.0190**	<0.001
TP1008	1.6-1.7	11213	0	N/A	N/A	0	-	<0.001
TP1008	1.6-2.5	11378	0	N/A	N/A	0	-	<0.001
TP1009	0-1.0	12600	1	Good	60 x 30 x 3	4.7	**<0.01**	<0.001
TP1009	1.2-1.5	12700	0	N/A	N/A	0	-	<0.001
TP1010	0-0.1	12631	0	N/A	N/A	0	-	<0.001

Project:	Cumberland Cluster	**ACM Asbestos Content % (w/w):**	15
Project No:	86976.06	**Land Use:**	**HSL-A Residential with access to soil**
Location:	59-73 Felton Road and 183 Pennant Hills Road, Carlingford NSW	**Bonded ACM Criterion**	**0.01**
		FA/AF Criterion	**0.001**

Table F3: Summary Results for Field Asbestos Sieving and Laboratory Analysis of Fribous Asbestos and Asbestos Fines

Sample ID / Test Location ID	Sample Depth Range (m bgl)	Weight of 10L Bulk Sample (g)	Approx. No. Fragments > 7mm	Condition of Fragments (good/poor)	Approx. Size of Largest Fragment (mm)	Weight of Screened ACM (g)	Concentration of Asbestos in Soil (% w/w)	Laboratory Concentration of FA/AF in Soil (% w/w)
TP1010	0.1-0.7	11912	0	N/A	N/A	0	-	<0.001
TP1011	0-0.2	11937	0	N/A	N/A	0	-	<0.001
TP1011****	0.2-0.9	12418	0	N/A	N/A	0	-	<0.001
TP1012	0-0.2	13011	0	N/A	N/A	0	-	<0.001
TP1012	0.2-0.75	12952	0	N/A	N/A	0	-	<0.001
TP1013	0-0.2	12913	0	N/A	N/A	0	-	<0.001
TP1013	0.2-0.45	11987	0	N/A	N/A	0	-	<0.001
TP1014	0-0.3	11800	0	N/A	N/A	0	-	<0.001
TP1014	0.3-0.7	12600	0	N/A	N/A	0	-	<0.001
TP1015	0-0.1	12700	0	N/A	N/A	0	-	<0.001
TP1015	0.1-0.8	12600	0	N/A	N/A	0	-	<0.001
TP1016	0-0.2	12197	0	N/A	N/A	0	-	<0.001
TP1016	0.2-0.7	12376	0	N/A	N/A	0	-	<0.001
TP1017	0-0.1	12400	0	N/A	N/A	0	-	<0.001
TP1017	0.1-0.7	11900	0	N/A	N/A	0	-	<0.001
TP1017	0.7-1.1	12800	0	N/A	N/A	0	-	<0.001
TP1018	0-0.1	12800	0	N/A	N/A	0	-	<0.001
TP1018	0.1-0.8	12500	0	N/A	N/A	0	-	<0.001
TP1018	0.8-1.3	12600	0	N/A	N/A	0	-	<0.001

Project:	Cumberland Cluster	**ACM Asbestos Content % (w/w):**	15
Project No:	86976.06	**Land Use:**	**HSL-A Residential with access to soil**
Location:	59-73 Felton Road and 183 Pennant Hills Road, Carlingford NSW	**Bonded ACM Criterion**	**0.01**
		FA/AF Criterion	**0.001**

Table F3: Summary Results for Field Asbestos Sieving and Laboratory Analysis of Fribous Asbestos and Asbestos Fines

Sample ID / Test Location ID	Sample Depth Range (m bgl)	Weight of 10L Bulk Sample (g)	Approx. No. Fragments > 7mm	Condition of Fragments (good/poor)	Approx. Size of Largest Fragment (mm)	Weight of Screened ACM (g)	Concentration of Asbestos in Soil (% w/w)	Laboratory Concentration of FA/AF in Soil (% w/w)
TP1019	0-0.5	12600	0	N/A	N/A	0	-	<0.001
TP1019	0.5-1.1	11800	0	N/A	N/A	0	-	<0.001
TP1020	0-0.5	12200	0	N/A	N/A	0	-	<0.001
TP1020	0.5-1	12900	0	N/A	N/A	0	-	<0.001
TP1021	0-0.1	12300	0	N/A	N/A	0	-	<0.001
TP1021	0.1-0.6	12300	0	N/A	N/A	0	-	<0.001
TP1021	0.6-1.0	12600	0	N/A	N/A	0	-	<0.001
TP1021	1.0-.1.3	12100	0	N/A	N/A	0	-	<0.001

Notes

*	A fragment of ACM>7mm was visually observed on site during excavation, however, the fragment was not able to
**	Asbestos as loose fibre bundes detected by the laboraotory below the limit of 0.001%w/w
***	Asbestos as fibrous matted material detected by the laboratory

Appendix D

Sampling Analysis and Quality Plan

Appendix D
Sampling Analysis and Quality Plan

D1.0 Data Quality Objectives

This Sampling Analysis and Quality Plan (SAQP) has been devised broadly in accordance with the seven step Data Quality Objective (DQO) process which is provided in Appendix B, Schedule B2 of *National Environment Protection (Assessment of Site Contamination) Measure* 1999, as amended 2013 (NEPC, 2013). The DQO process is outlined as follows:

(1) State the Problem

The "problem" to be addressed is that additional information is required to inform the assessment on the site's suitability for the proposed development and continued use as a school and inform the decision regarding the remediation strategy to make the site suitable for the proposed use.

(2) Identify the Decision / Goal of the Study

The goal (objectives) of the study are provided in Section 1 of the RAP.

The following decisions will be made based on the data proposed to be obtained:

- Do the existing fill and / or natural soils pose a potential risk to identified receptors?
- Is the data sufficient to make a decision regarding the abovementioned risks, the compatibility of the site for the proposed development or are additional investigations required?
- Is the site suitable for the proposed continued use as a school from a contamination perspective?
- Does contamination at the site, if encountered, trigger the Duty to Report requirements under the CLM Act 1997?
- Are there any off-site migration issues that need to be considered?
- Is the data sufficient to enable the update / addendum for a RAP and / or Environmental Management Plan (EMP) should the data suggest these are required?

(3) Identify the Information Inputs

Inputs into the decisions will be as follows:

- Results of previous investigations (as discussed in Section 6 of the RAP);
- Site history (summarised in Section 6 of the RAP);
- The site condition (as discussed in Sections 4 and 5 of the RAP);
- Field observations;

- Field and laboratory test results;
- The assessment criteria (as discussed in Appendix F);
- Field and laboratory QA / QC data; and
- Details of the proposed development (as discussed in Section 2 or the RAP).

(4) Define the Boundaries of the Study

The site for the purposes of this SAQP is the proposed school upgrades identified as a State Significant Development within the area herein referred to as the 'Site' (see Drawing R.002.D.01, Appendix B). The site boundaries (blue) are shown on Drawing 1, Appendix A.

The depth of the study will be the depth of intrusive investigation at any given location. In general test pits will be extended to approximately 0.2 m into natural soil or prior refusal. The typical depth of fill from previous investigations was between 0.6 m bgl to 2.9 m bgl, with deeper fill encountered in borehole 313 and test pits 314, 315, 319, 320, 323 and 324.

(5) Develop the Analytical Approach (or decision rule)

The information obtained during the assessment will be used to characterise the site in terms of contamination issues and risk to human health and / or the environment. The decision rules used in characterising the site will be as follows:

- Laboratory test results for systematic soil samples will be assessed individually or statistically (if considered appropriate) to determine the 95% upper confidence level (UCL) of the mean concentration for each analyte or analyte group (of like materials);
- Laboratory test results for targeted locations will be assessed individually or with other samples targeting the same issue;
- Laboratory test results for identified "hot spots" will be assessed individually;
- The adopted site criteria will be the NSW Environment Protection Authority (EPA) endorsed criteria (refer to Appendix F);
- Where such criteria are not available, other recognised national or international standards will be used; and
- Further investigation, remediation and / or management will be recommended if the site is found to be contaminated or containing contamination "hot spots".

The acceptable limits for the proposed QA / QC assessment are provided in Section 15 of the RAP. An assessment of the overall data quality will be presented in the data gap assessment report. Field and laboratory test results will be considered useable for the assessment after evaluation against the following data quality indicators (DQIs):

- Precision - a measure of variability or reproducibility of data;
- Accuracy - a measure of closeness of the data to the 'true' value;

- Representativeness - the confidence (qualitative) of data representativeness of media present on site;
- Completeness - a measure of the amount of usable data from a data collection activity; and
- Comparability - the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event.

(6) Specify Performance or Acceptance Criteria

The possible decision errors for the proposed data gap assessment are:

- Deciding that the site is suitable for the proposed continued use as a school without remediation when truly it is not; and
- Deciding that the site is not suitable for the proposed continued use as a school without remediation when truly it is.

Decision errors for the proposed assessment will be minimised and measured by the following:

- Compare new data with available previous investigations;
- Systematic soil sample numbers will comply with those recommended in the NSW EPA Sampling Design Part 1 - Application (2022), which have risk probabilities already incorporated;
- The sampling regime will target each stratum identified to account for site variability;
- Sample collection and handling techniques will be in accordance with standard field procedures;
- Samples will be prepared and analysed by a NATA-accredited laboratory with the acceptance limits for laboratory QA / QC parameters based on the laboratory reported acceptance limits and those stated in NEPC (2013);
- The analyte selection is based on the conceptual site model (refer to Section 7 of the RAP). The potential for contaminants other than those proposed to be analysed is considered to be low;
- The SAC have been established as per Appendix F of the RAP. The SAC have risk probabilities already incorporated;
- A significance level of 0.05 will be adopted for data with statistical analysis of 95% Upper Confidence Limit (95% UCL) of average concentrations; and
- NATA accredited laboratories using NATA endorsed methods, where available, are used to perform laboratory analysis.

(7) Develop the Plan for Obtaining Data

As the purpose of the sampling program is to assess for potential contamination at targeted locations across the site, the sampling program is reliant on professional judgement to identify and sample the potentially affected areas.

Further details regarding the proposed sampling plan are presented in Section D2.0 below.

In the event that the data obtained does not meet the stated data quality objectives, the following steps should be followed:

1. Assess of the significance of the results in relation to their impact on the data quality objectives;
2. Consult with the auditor in relation to their influence on the decisions made in respect to the site;
3. Discuss any shortcomings in the data in the data gap report; or (if necessary); and
4. Undertake additional sampling or analysis to address the shortcomings in the data.

D2.0 Sampling Strategy and Design

The following sampling and analysis works are proposed and shown on the site plan (Drawing R.002.D.02 and R.002.D.03, Appendix B) and areas follows:

- Undertaking works, including collection and analysis of QA / QC samples in accordance with Section 15 of the RAP;
- Collection of samples from the 48 test locations as shown on Drawing R.002.D.02 and R.002.D.03, Appendix B, as follows:
  - Excavate 21 test pits within Remediation Area 1 to delineate the ACM identified and characterise the nature of the contamination (test pits to target 0.2 m into the natural soil profile); and
  - Excavated 27 test pits (or boreholes) within the general building (proposed for demolition) footprints or untested areas to provide general site coverage to 0.5 m into natural soils.
- The proposed target depth and / or horizon(s) and rationale for each location are provided in Table 1 below. The following rationale has been considered for targeted sampling:
  - Samples in Remediation Area 1 will target fill and near surface soils to assess sources S1 – uncontrolled fill. It is noted the use of test pits where possible will enable sufficient samples for asbestos sieving (minimum 10L) and 500 mL asbestos; and
  - The remaining samples are to target fill and near surface soils to assess sources S1 – uncontrolled fill, S2 - previous and current site use and S3 - existing buildings on site. It is noted the use of test pits where possible will enable sufficient samples for asbestos sieving and 500 mL asbestos.
- Logging of encountered soil materials and pertinent field information; and
- Laboratory and field testing of selected soil samples as discussed in Table 1 below.

The proposed sample locations are shown on the site drawings R.002.D.02 and R.002.D.03, Appendix B and target the following soil strata and CoPC.

Table 1: Proposed Sample Location Targets

Proposed Sample Location	Target Source (Target Analytes Provided in Notes)
Test Pits within Remediation Area 1	Fill at various depths (Asbestos)
Test Pits within building footprints and providing general site coverage	Fill at various depths (Asbestos, heavy metals, TRH, BTEX, PAH, OCP, OPP, PCB and phenols)

D3.0 Sampling and Analysis Plan and Methodology

D3.1 Sampling Methodology

Soil sampling is carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures comprise:

- Collect soil samples directly from the excavator bucket at regular intervals no greater than 0.5 m intervals, changes in strata and where signs of potential contamination;
- Transfer samples in laboratory-prepared glass jars with Teflon lined lids by hand, capping immediately and minimising headspace within the sample jar;
- Collect replicate samples in zip-lock bags for PID screening;
- Collect ~500 ml samples for FA and AF analysis;
- If no ~500 ml sample for FA and AF analysis is collected then collect ~40 g to 50 g samples in zip-lock bags for asbestos (presence / absence) analysis;
- Collect bulk (~10 L) soil samples for ACM field sieve test at all test locations within Remediation Area 1 and any other test pit where building rubble or asbestos is encountered or suspected;
- Wear a new disposable nitrile glove for each sample point thereby minimising potential for cross-contamination;
- Collect QA / QC samples in accordance with Section 5 of the RAP;
- Label sample containers with individual and unique identification details, including project number, sample location and sample depth (where applicable);
- Place samples into a cooled, insulated and sealed container for transport to the laboratory; and
- Use chain-of-custody documentation.

D3.1.1 Field Testing

Field testing is carried out in accordance with DP standard operating procedures. The general sampling and sample management procedures comprise:

PID Field Test:

- Calibrate the PID with isobutylene gas at 100 ppm and with fresh air prior to commencement of each successive day's field work;
- Allow the headspace in the PID zip-lock bag samples to equilibrate; and
- Screen using the PID.

Assessment of Subsurface ACM:

- Collect at least one bulk (~10 L) soil sample per metre of fill from each test pit;
- Weigh each bulk sample;
- Screen each bulk sample through a ≤7 mm aperture sieve;
- Weigh all retrieved potential ACM fragments; and

- Calculate the asbestos concentration (% w/w) in soil as per the procedure described in NEPC (2013).

Any works relating to asbestos in soil are to be undertaken by a competent person as defined by SafeWork NSW.

D3.1.2 Proposed Laboratory Analysis

Selected samples from each location will be analysed for varying combination of the COPC identified in Section D2.0 and Section 7 of the RAP. These comprise:

For delineation investigations within Remediation Area 1:

- Asbestos (500 mL).

For all other data gap investigation test locations:

- Heavy metals (including As, Cd, Cr, Cu, Pb, Hg, Ni, Zn);
- Total recoverable hydrocarbons (TRH) (as a screening test for TPH);
- BTEX;
- PAH;
- OCP;
- OPP;
- PCB;
- Phenols; and
- Asbestos (500 mL samples analysed if building debris or asbestos is encountered).

Note: SMF will be assessed visually only.

At least one sample is expected to be analysed from locations with shallow fill (i.e., approximately 0.5 m or less) whilst two to three samples will be analysed from deeper fill to provide data on the contaminant concentrations at varying depths in the fill.

D4.0 References

ASTM D7663-12. (2018). *Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapour Intrusion Evaluations.* 2018 e1 (editorial change to 2012 revision): American Society for Testing and Materials.

HEPA. (2020). *PFAS National Environmental Management Plan (NEMP).* Version 2.0: Heads of EPAs Australia and New Zealand and Australian Government Department of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (2020). *Assessment and Management of Hazardous Ground Gases.* NSW Environment Protection Authority.

USEPA. (1999a). *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air.* Second Edition: United States Environment Protection Agency.

USEPA. (1999b). *Compendium Method TO-15 Determination of Volatile Organic Compounds (VOCs) In Air Collected in Specially-Prepared Canisters and Analysed By Gas Chromatography Mass Spectrometry (GC/MS).* United States Environment Protection Agency.

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Appendix E

Contingency Plan and Unexpected Finds Protocol

Appendix E
Contingency Plan and Unexpected Finds Protocol

E1.0 General

Where the site conditions are found to be different than that anticipated during the remediation works, the proposed remediation approach may not be appropriate for the contamination encountered. In such cases the Environmental Consultant is to re-assess the contamination and remediation approach and inform the Site Auditor. Where necessary the Environmental Consultant will prepare an addendum to, or revision of, this RAP. Any addendum or revision is to be reviewed and agreed by the Site Auditor before its implementation.

E2.0 Contingency Plan

This contingency plan has been developed to provide guidance on processes to follow if contamination (or indicators of contamination), other than that included in the remediation strategy, (Section 10) is encountered during the remediation works. Any such finds shall be surveyed and the location documented.

Although the site has been subject to previous investigation(s), there remains a potential for soil contamination to be present between sampled locations. In the event that signs of soil contamination, other than that included in the remediation strategy, are encountered during remediation e.g., evidence of asbestos containing material (ACM), petroleum, or other chemical odours which weren't previously identified the following protocols will apply:

- The Site Manager is to be notified and the affected area closed off by the use of barrier tape and warning signs;
- The Environmental Consultant is to be notified to inspect the area and assess the significance of the potential contamination and determine extent of remediation works (if deemed necessary) to be undertaken. An assessment report and management plan detailing this information will be compiled by the Environmental Consultant and provided to the Principal's Representative;
- The assessment results together with a suitable management plan shall be provided by the Principal's Representative to the Consent Authority (if required by the development consent) and Site Auditor;
- The agreed management / remedial strategy, based on the RAP and relevant guidelines (e.g., WA DoH (2021), for asbestos issues), shall be implemented; and
- All details of the assessment and remedial works are to be included in the site validation report.

E3.0 Unexpected Finds Protocol

This unexpected finds protocol (UFP) has been developed to provide guidance on processes to follow if any unexpected find is encountered during the remediation or future civil and construction works. Any unexpected finds should be surveyed and the location documented.

All site personnel are to be inducted into their responsibilities under this (UFP), which should be included or referenced in the Contractors Environmental Management Plan.

All site personnel are required to report unexpected signs of environmental concern to the Site Manager if observed during the course of their works e.g,. presence of potential unexploded ordinance, unnatural staining, potential contamination sources (such as buried drums or tanks) or chemical spills.

Should signs of concern be observed, the Site Manager, as soon as practical, will:

- Stop work in the affected area and ensure the area is barricaded to prevent unauthorised access;
- Notify authorities needed to obtain emergency response for any health or environmental concerns (e.g., fire brigade);
- Notify the Principal's Representative of the occurrence;
- Notify any of the authorities that the Contractor is legally/ contractually required to notify (e.g. EPA, Council); and
- Notify the Environmental Consultant.

The Principal's Representative is to notify any of the authorities which the Principal is legally/ contractually required to notify (e.g. EPA, Council). Where appropriate the Principals Representative will also implement appropriate community consultation in accordance with the project's Communications Plan.

The Environmental Consultant will assess the extent and significance of the find and develop an investigation, remediation or management approach using (where possible) the principles and procedures already outlined in the RAP. Where a Site Auditor is involved, the proposed approach will be discussed and agreed with the Site Auditor prior to implementation.

E4.0 References

WA DoH. (2021). *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.* WA Department of Health.

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Appendix F

Site Assessment Criteria

Appendix F
Site Assessment Criteria

F1.0 Introduction

F1.1 Guidelines

The following key guidelines were consulted for deriving the site assessment criteria (SAC):

- NEPC *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM]* (NEPC, 2013);
- CRC CARE *Health screening levels for petroleum hydrocarbons in soil and groundwater* (CRC CARE, 2011); and
- NSW EPA. (2014). *Waste Classification Guidelines, Part 1: Classifying Waste*. NSW Environmental Protection Authority.

F1.2 General

The site assessment criteria (SAC) applied in the current investigation are informed by the conceptual site model (CSM) which identified human and environmental receptors to potential contamination at the site. Analytical results are assessed (as a Tier 1 assessment) against the SAC comprising primarily the investigation and screening levels of Schedule B1 of NEPC (2013).

The following inputs are relevant to the selection and/or derivation of the SAC:

Proposed land use: primary and secondary schools.

- Corresponding to land use category 'A', residential with garden / accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry), also includes children's day care centres, preschools and primary schools.
- Soil type: Clay (fine).

F2.0 Soils

F2.1 Health Investigation and Screening Levels

The generic health investigation levels (HIL) and health screening levels (HSL) are considered to be appropriate for the assessment of human health risk via all relevant pathways of exposure associated with contamination at the site. The adopted soil HIL and HSL for the contaminants of concern are in Table 1 and Table 2.

Table 1: Health Investigation Levels (mg/kg)

Contaminant	HIL-A
Metals	
Arsenic	100
Cadmium	20
Chromium (VI)	100
Copper	6000
Lead	300
Mercury (inorganic)	40
Nickel	400
Zinc	7400
PAH	
B(a)P TEQ	3
Total PAH	300
Phenols	
Phenol	3000
Pentachlorophenol	100
OCP	
DDT+DDE+DDD	240
Aldrin and dieldrin	6
Chlordane	50
Endosulfan	270
Endrin	10
Heptachlor	6
HCB	10
Methoxychlor	300

Contaminant	HIL-A
OPP	
Chlorpyrifos	160
PCB	
PCB	1

Table 2: Health Screening Levels (mg/kg)

Contaminant	HSL-A&B	HSL-A&B	HSL-A&B	HSL-A&B
CLAY	**0 m to <1 m**	**1 m to <2 m**	**2 m to <4 m**	**4 m+**
Benzene	0.7	1	2	3
Toluene	480	NL	NL	NL
Ethylbenzene	NL	NL	NL	NL
Xylenes	110	310	NL	NL
Naphthalene	5	NL	NL	NL
TRH F1	50	90	150	290
TRH F2	280	NL	NL	NL

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX

TRH F2 is TRH >C_{10}-C_{16} minus naphthalene

The soil saturation concentration (Csat) is defined as the soil concentration at which the porewater phase cannot dissolve any more of an individual chemical. The soil vapour that is in equilibrium with the porewater will be at its maximum. If the derived soil HSL exceeds Csat, a soil vapour source concentration for a petroleum mixture could not exceed a level that would results in the maximum allowable vapour risk for the given scenario. For these scenarios, no HSL is presented for these chemicals and the HSL is shown as 'not limiting' or 'NL'

The HSL for direct contact derived from CRC CARE (2011) are in Table 3.

Table 3: Health Screening Levels for Direct Contact (mg/kg)

Contaminant	DC HSL-A
Benzene	100
Toluene	14 000
Ethylbenzene	4500
Xylenes	12 000
Naphthalene	1400
TRH F1	4400
TRH F2	3300
TRH F3	4500
TRH F4	6300

Notes: TRH F1 is TRH C_6-C_{10} minus BTEX

TRH F2 is TRH >C_{10}-C_{16} minus naphthalene

F2.2 Asbestos in Soil

With respect to asbestos concentrations, as per NEPC (2013) *Table 7: Health Screening Levels for Asbestos Contamination in Soil* there should be no visible asbestos in the surface soil, whilst the SAC for bonded ACM is to be less than 0.01% w/w and fibrous asbestos / asbestos fines (FA and AF) is to be less than 0.001% w/w.

F2.3 Ecological Investigation Levels

Ecological investigation levels (EIL) and added contaminant limits (ACL), where appropriate, have been derived in NEPC (2013) for arsenic, copper, chromium (III), nickel, lead, zinc, DDT and naphthalene. The adopted EIL derived using the interactive (excel) calculation spreadsheet on the NEPM toolbox website are shown in Table 5, with inputs into their derivation shown in Table 4.

Table 4: Inputs to the Derivation of the Ecological Investigation Levels

Variable	Input	Rationale
Age of contaminants	"Aged" (>2 years)	No recent signs of contamination
pH	5.18	Measured average based on laboratory results
CEC	5.52 $cmol_c/kg$	Measured average based on laboratory results
Clay content	10%	Assumed minimum based on lithology encountered during investigation
Traffic volumes	high	Main road near site
State / Territory	NSW	-

Table 5: Ecological Investigation Levels (mg/kg)

Contaminant	EIL-A-B-C
Metals	
Arsenic	100
Copper	130
Nickel	45
Chromium III	410
Lead	1100
Zinc	280
PAH	
Naphthalene	170

Contaminant	EIL-A-B-C
OCP	
DDT	180

Notes: EIL-A-B-C urban residential and public open space

F2.4 Ecological Screening Levels

Ecological screening levels (ESL) are used to assess the risk of selected petroleum hydrocarbon compounds, benzene, toluene, ethylbenzene and xylene (BTEX) and benzo(a)pyrene to terrestrial ecosystems. The adopted ESL are shown in Table 6.

Table 6: Ecological Screening Levels (mg/kg)

Contaminant	Soil Type	EIL-A-B-C
Benzene	Fine	65
Toluene	Fine	105
Ethylbenzene	Fine	125
Xylenes	Fine	45
TRH F1	Coarse/ Fine	180*
TRH F2	Coarse/ Fine	120*
TRH F3	Fine	1300
TRH F4	Fine	5600
B(a)P	Fine	0.7

Notes: ESL are of low reliability except where indicated by * which indicates that the ESL is of moderate reliability
TRH F1 is TRH C_6-C_{10} minus BTEX
TRH F2 is TRH >C_{10}-C_{16} including naphthalene
EIL-A-B-C urban residential and public open space

F2.5 Management Limits

In addition to appropriate consideration and application of the HSL and ESL, there are additional considerations which reflect the nature and properties of petroleum hydrocarbons, including:

- Formation of observable light non-aqueous phase liquids (LNAPL);
- Fire and explosion hazards; and
- Effects on buried infrastructure e.g., penetration of, or damage to, in-ground services.

The adopted management limits are in Table 7.

Table 7: Management Limits (mg/kg)

Contaminant	Soil Type	ML-A-B-C
TRH F1	Fine	800
TRH F2	Fine	1000
TRH F3	Fine	3500
TRH F4	Fine	10 000

Notes: TRH F1 is TRH C_6-C_{10} including BTEX
TRH F2 is TRH >C_{10}-C_{16} including naphthalene
ML-A-B-C residential, parkland and public open space

F3.0 Waste Classification

F3.1 Fill

The waste classification should be conducted with reference to the NSW Environment Protection Authority (EPA) *Waste Classification Guidelines, Part 1: Classifying Waste*, November 2014 (NSW EPA, 2014).

NSW EPA (2014) contains a six-step procedure for determining the type of waste and the waste classification. Part of the procedure, for materials not classified as special waste or pre-classified waste, is a comparison of analytical data initially against contaminant threshold (CT) values specific to a waste category. Alternatively, the data can be assessed against specific contaminant concentration (SCC) thresholds when used in conjunction with toxicity characteristic leaching procedure (TCLP) thresholds.

The CT, SCC and TCLP values can be found in Table 1 and Table 2 of NSW EPA (2014).

F3.2 Natural Soils

The POEO Act defines virgin excavated natural material (VENM) as:

'*natural material (such as clay, gravel, sand, soil or rock fines):*

(a) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and

(b) that does not contain any sulfidic ores or soils or any other waste

The following publications with background concentration ranges for Australian soils have been referenced as a guide in assessing the concentrations of analytes:

The VENM waste classification should be conducted with reference to the NSW Environment Protection Authority (EPA) *Waste Classification Guidelines, Part 1: Classifying Waste*, November 2014 (EPA, 2014).

F3.0 References

CRC CARE. (2011). *Health screening levels for petroleum hydrocarbons in soil and groundwater.* Parts 1 to 3, Technical Report No. 10: Cooperative Research Centre for Contamination Assessment and Remediation of the Environment.

NEPC. (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) [NEPM].* Australian Government Publishing Services Canberra: National Environment Protection Council.

NSW EPA. (2014). *Waste Classification Guidelines, Part 1: Classifying Waste.* NSW Environmental Protection Authority.

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Appendix G

Site Management Plan

Appendix G
Site Management Plan

G1.0 Introduction

This site management plan (SMP) has been developed to minimise potentially adverse impacts on the environment, and worker and public health as a result of the proposed remediation works.

The Remediation Contractor must have in place a construction environmental management plan (CEMP) (or similar) which is specific to the equipment used for the remediation and the proposed methods to be adopted by the Remediation Contractor. This SMP has been prepared to augment the Remediation Contractor's CEMP and contains general details for aspects of the work, as per reporting requirements for a remediation action plan (RAP) under NSW EPA *Guidelines for Consultants Reporting on Contaminated Land* (NSW EPA, 2020).

Apart from the management principles outlined in this SMP, the Remediation Contractor must also ensure compliance with all relevant environmental legislation and regulations, including (but not limited to) the following:

- *Contaminated Land Management Act 1997* NSW (CLM Act);
- *Protection of the Environment Operations Act 1997* NSW (POEO Act);
- *Protection of the Environment Legislation Amendment Act 2011* NSW;
- *Protection of the Environment Operations Amendment (Scheduled Activities and Waste) Regulation 2008* NSW.
- *Environmentally Hazardous Chemicals Act 1985* NSW;
- *Environmental Offences and Penalties Act 1989* NSW;
- *Pesticide Act 1999* NSW and *Pesticides Regulation 2017*; and
- *Work Health and Safety Act 2011* Cth (WHS Act) and *Work Health and Safety Regulations 2011* Cth.

G2.0 Roles and Responsibilities

G2.1 Principal

The Principal is responsible for the environmental performance of the proposed remediation works, including implementation of acceptable environmental controls during remediation works. The Principal will retain the overall responsibility for ensuring this RAP is appropriately implemented. The Principal is to nominate a representative (the Principal's Representative), who is responsible for overseeing the implementation of this RAP. The actual implementation of the RAP will, however, be conducted by the Principal Contractor on behalf of the Principal.

The Principal is responsible for providing appropriate information to the Contractor to allow them to safely plan the required works. This includes the asbestos register for the site and this RAP.

The Principal is also responsible for implementing an appropriate communications plan.

G2.2 Principal Contractor

The Principal Contractor ('the Contractor') will be the party responsible for daily implementation of this RAP and shall fulfil the responsibilities of the Contractor as defined by SafeWork NSW. It is noted that the Contractor may appoint appropriately qualified sub-contractors or sub-consultants to assist in fulfilling the requirements of the procedures. The Contractor will appoint a Site Manager.

In addition to the implementation of the RAP it will be the Contractors responsibility to:

- Obtain / ensure relevant sub-contractors obtain specific related approvals as necessary to implement the earthworks including permits for removal of asbestos-containing material, SafeWork NSW notification etc.;
- Develop or request and review any site plans to manage the works to be conducted;
- Ensure that all remediation works and other related activities are undertaken in accordance with this RAP;
- Maintain all site records related to the implementation of this RAP;
- Ensure sufficient information is provided to engage or direct all required parties, including sub-contractors, to implement the requirements of the RAP other than those that are the direct responsibility of the Contractor;
- Manage the implementation of any recommendation made by those parties in relation to work undertaken in accordance with the RAP;
- Inform, if appropriate, the relevant regulatory authorities of any non-conformances with the procedures and requirements of the RAP in accordance with the procedures outlined in this document;
- Retain records of any contingency actions;
- On completion of the project, to review the RAP records for completeness and update as necessary; and
- Recommend any modification to general documentation which would further improve the environmental outcomes of this RAP.

G2.3 Surveyor

The project surveyor will be a registered surveyor engaged by the Contractor to undertake surveying works as required by this RAP.

G2.4 Asbestos Contractor

The Asbestos Contractor will be responsible for undertaking all asbestos work involving any asbestos impacted filling and will hold a Class A licence for the removal of asbestos (issued by SafeWork NSW), on the basis that the asbestos identified at the site to date has included both friable and bonded asbestos.

The Asbestos Contractor can be the same entity as the Principal Contractor.

G2.5 Sub-contractors

All sub-contractors will be inducted onto the site, informed of their responsibilities in relation to this RAP and sign their agreement to abide by the RAP requirements. Where necessary, sub-contractors will also be trained in accordance with the requirements of this document. All sub-contractors must conduct their operations in accordance with the RAP as well as all applicable regulatory requirements.

G2.6 Environmental Consultant

The Environmental Consultant will provide advice on implementing the RAP. The Environmental Consultant will be responsible for:

- Undertake any required assessments where applicable (e.g. waste classification, validation);
- Provide advice and recommendations arising from monitoring and/or inspections, including unexpected finds; and
- Notify the Client with any results of assessments, and any observed non-conformances.

G2.7 Licenced Asbestos Assessor

A Licenced Asbestos Assessor will be required to be engaged independently of the Asbestos Contractor to undertake the following:

- Review and approve documentation prepared by the Asbestos Contractor;
- Prepare any WHS plans and advice required by the Contractor;
- Undertake airborne asbestos monitoring;
- Undertake clearance inspections;
- Provide advice and recommendations arising from monitoring and/or inspections; and
- Notify the client with the results of any assessments and any observed non-conformances.

G2.8 Site Workers

All workers on the site are responsible for observing the requirements of this RAP and other management plans. These responsibilities include the following:

- Being inducted on the site and advised of the general nature of the remediation/environmental issues at the site;
- Being aware of the requirements of this plan;
- Wearing appropriate personal protective equipment (PPE) as required by this plan;
- Only entering restricted areas when permitted; and
- Requesting clarification when unclear of requirements of this or any other plans (e.g., safe work method statements (SWMS)).

G3.0 Stormwater Management

G3.1 Stormwater

Stormwater must be managed during the remediation works such that potential adverse impacts from surface runoff (e.g., cross contamination, mobilisation of contaminants in soil particles, etc.) are appropriately mitigated. Accordingly, the Remediation Contractor will take appropriate measures which may include:

- Construction, where necessary, of stormwater diversion channels, bunding and linear drainage sumps with catch pits in and around the remediation areas to divert stormwater from the contaminated areas;
- Provision of appropriately located sediment traps including geotextiles; and
- Discharge of excess water in excavations / low points on a regular basis to limit the potential for flooding.

G3.2 Dewatering of Excavations

Any runoff or seepage water accumulated in site excavations that requires removal must initially be sampled and tested for suspended solids, pH and any contaminants of potential concern (CoPC) as identified by the Environmental Consultant. The options for management of excavation pump-out water, dependent upon the test results, are for disposal of the water as follows:

- Discharge to stormwater with prior approval from Council. Provided the test results comply with relevant ANZG *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018), or any other compliance requirements stipulated by Council. The Environmental Consultant must consider the most appropriate criteria to be used; or
- Discharge to sewer, as industrial trade wastewater, with prior approval from Sydney Water. This option would require the analysis of a larger list of analytes, and compliance with the Sydney Water acceptance standards; or

- Pumping by a liquid waste contractor for removal of the water off-site, in accordance with regulatory requirements.

Note that, depending on the type and scale of the dewatering required, a permit (water use approval) may need to be obtained through NSW Water.

G4.0 Soil Management Plan

G4.1 Excavation and Stockpiling of Contaminated Material

Contaminated material shall be excavated and stockpiled at a suitably segregated location(s) away from sensitive areas (e.g., water bodies, drainage lines, stormwater pits, etc.) and ongoing excavations, and in a manner that will not cause nuisance to the neighbouring properties. Soil stockpiles are to be managed as follows:

- All stockpiles of contaminated material shall be surrounded by star pickets and marking tape or other suitable material to clearly delineate their boundaries;
- Stockpiles shall be lightly conditioned by sprinkler and/or covered by geotextile or similar cover to prevent dust generation;
- Any stockpile to remain on-site overnight should be adequately secured in order to reduce the risk of sediment runoff; and
- Should the stockpile remain on-site for over 24 hours, geotextile silt fences must be erected to prevent losses by surface erosion.

All movement of soil within the site and off-site is to be tracked by the Remediation Contractor, from cradle to grave. Copies of tracking records must be provided to the Environmental Consultant.

G4.2 Loading and Transport of Contaminated Material

Transport of contaminated material from the site shall be via a clearly delineated haul route and this route shall be used exclusively for entry and egress of vehicles used to transport contaminated materials within and away from the site. The proposed waste transport route (to be determined by the Remediation Contractor) will be notified to Council and truck dispatch shall be logged and recorded by the Remediation Contractor for each load leaving the site. A record of the truck dispatch will be provided to the Environmental Consultant.

All haulage routes for trucks transporting soil, materials, equipment or machinery to and from the site should be selected to meet the following objectives:

- Comply with all road traffic rules;
- Minimise noise, vibration and dust to adjacent premises; and
- Utilise State roads and minimise use of local roads as far as practicable.

The remediation work will be conducted such that all vehicles:

- Conduct deliveries of soil, materials, equipment or machinery only during the specified hours of remediation;
- Have securely covered loads to prevent any dust or odour emissions during transportation; and
- Exit the site in a forward direction.

In addition, measures will be implemented to ensure no contaminated material is spilled onto public roadways or tracked off-site on vehicle wheels. Roadways will be kept clean throughout the remediation works and will be broomed, if necessary, to achieve a clean environment.

All loads will be securely covered and may be lightly wetted, if required, to ensure that no materials or dust are dropped or deposited outside or within the site. Prior to exiting the site each truck should be inspected by Remediation Contractor personnel and either noted as clean (wheels and chassis) or broomed prior to leaving the site. Any soil spilled onto surrounding streets will be cleaned by mechanical or hand methods, on a daily basis.

Removal of waste materials from the site shall only be carried out contractors holding the appropriate license(s), consent or approvals to dispose the waste materials according to the waste classification and with the appropriate approvals obtained from the EPA, were required.

G5.0 Noise and Vibration Control Plan

All equipment and machinery should be operated in an efficient manner to minimise the emission of noise. The use of any plant and/or machinery should not cause unacceptable vibrations to nearby properties and should meet Council requirements.

G6.0 Dust Control Plan

Dust emissions must be confined within the site boundary as far as is practicable. The following example dust control procedures could be employed to comply with this requirement, as necessary:

- Erection of dust screens around the perimeter of the site (as applicable);
- Securely covering all loads entering or exiting the site;
- Use of water sprays across the site to suppress dust;
- Covering of all stockpiles of contaminated soil remaining on site more than 24 hours;
- Include wheel wash (if applicable); and
- Keeping excavation and stockpile surfaces moist.

Regular checking of the fugitive dust issues is to be undertaken. Remedial measures are to be undertaken to rectify any cases of excessive dust.

G7.0 Odour Control Plan

No odours should be detected at any boundary of the site during remediation works by an authorised Council Officer relying solely on sense of smell. The following example procedures could be employed to comply with this requirement as required:

- Use of appropriate covering techniques such as plastic sheeting, polythene or geotextile membranes to cover excavation faces or stockpiles;
- Fine spray of water and/or hydrocarbon mitigating agent on the impacted areas/materials;
- The use of water spray, as and when appropriate;
- Use of sprays or sprinklers on stockpiles or loads to lightly condition the material;
- Restriction of stockpile heights to ~4 m above surrounding site level. If required, restrict uncovered stockpiles to appropriate sizes to minimise odour generation;
- Ceasing works during periods of inclement weather such as high winds or heavy rain;
- Regular checking of the fugitive dust and odour issues to ensure compliance. Undertake immediate remediation measures to rectify any cases of excessive dust or odour (e.g., use of misting sprays or odour masking agent); and
- Adequate maintenance of equipment and machinery to minimise exhaust emissions.

G8.0 Work Health and Safety Plan

G8.1 General

It is the Remediation Contractor's responsibility to devise a SWMS[1] (or series thereof, for various respective tasks) and to implement proper controls that enable the personnel undertaking the remediation to work in a safe environment. This RAP and SMP does not relieve the Remediation Contractor or other contractors of their ultimate responsibility for occupational health and safety of their workforce and to prevent contamination of areas outside the 'remediation' workspace. This RAP and SMP sets out general procedures and the minimum standards and guidelines for remediation that will need to be used in preparing the safe work method statement.

This work health safety plan (WHSP) has been prepared with refence to CRC CARE *Remediation Action Plan: Implementation - Guideline on Health and Safety* (CRC CARE, 2019). The requirements of this WHSP must be incorporated into the Remediation Contractor's SWMS.

All site work must be undertaken in a controlled and safe manner with due regard to potential hazards, training and safe work practices. To attain this the SWMS developed by the Remediation Contractor must comply with policies specified in the Work Health and Safety Regulation 2011.

All appropriate permits, licences and notifications required for the remediation activities must be obtained prior to the commencement of remediation works.

[1] Either a SWMS or construction environmental management plan (CEMP), or other equivalent document incorporating health and safety aspects of the proposed remedial works.

G8.2 Site Access

Appropriate fencing and signage must be installed around and within the site to prevent unauthorised access and restrict access to remediation areas and/or deep excavations. Access restrictions and administrative arrangements for management of entry of workers or related personnel on site is the responsibility of the Remediation Contractor.

Any existing pits or unstable areas on site that may generate potential safety, or operational risk should be demarcated and taped off, with appropriate rectification action undertaken (e.g., backfilling of pits).

G8.3 Personnel and Responsibilities

Before undertaking works on site, all personnel will be made aware of the officer responsible for implementing WHS procedures. All personnel must read and understand this WHSP and over-arching SWMS prior to commencing site works and sign a statement to that effect. Contractors employed at the site will be responsible for ensuring that their employees are aware of, and comply with, the requirements of this WHSP and Remediation Contractor's SWMS.

G8.4 Chemical Contamination Hazards

Chemical compounds or substances that may be present in the soils at the site include the key CoPC including heavy metals, TRH and PAH. There is also a lower probability of other contaminants being present.

The risks associated with the identified contaminants to site personnel and workers involved in the remediation are considered to be low due to the concentrations within groundwater and soil vapour and limited exposure durations. These risks are associated with:

- Ingestion of contaminated soil and/or water;
- Dermal contact with contaminated soil and / or water; and
- Inhalation of dusts or vapours of the CoPC.

Personnel will endeavour, wherever possible, to avoid direct contact with potentially contaminated material. Workers must avoid the potential exposures listed above as far as is practicable. Appropriate personal protective equipment (PPE) must be used to mitigate potential risks.

G8.5 Physical Hazards

The following physical hazards are associated with conditions that may be created during remediation works:

- Heat exposure;
- Excavations;
- Buried services;

- Noise;
- Dust;
- Electrical equipment;
- Heavy equipment and truck operation; and
- Asbestos.

Safe work practices must be employed to manage the physical risks identified above. For the most part these risks can be managed through appropriate demarcation, access controls and the use of appropriate PPE.

G8.6 Safe Work Practices

The appropriate safe work practices should be clearly defined by the Remediation Contractor in their SWMS. As a minimum, all personnel on site will be required to wear the following PPE:

- Steel-capped boots (mandatory);
- High visibility clothing / vest (mandatory);
- Safety glasses or safety goggles with side shields requirements (as necessary);
- Hard hat (as necessary);
- Appropriate respiratory and protective equipment for any works involving asbestos (as necessary); and
- Hearing protection when working in the vicinity of machinery or plant equipment if noise levels exceed exposure standards (as necessary).

Each item of PPE should meet the corresponding relevant Australian Standard(s).

Specific safe work practices will be adopted when working with asbestos, in accordance with (but not limited to) the following codes of practice:

- SafeWork NSW *Code of Practice, How to Manage and Control Asbestos in the Workplace* (SafeWork NSW, 2019a)
- SafeWork NSW *Code of Practice, How to Safely Remove Asbestos* (SafeWork NSW, 2019b);
- WorkCover NSW *Managing Asbestos in or on Soil* (WorkCover NSW, 2014);
- NOHSC *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Ed* (NOHSC, 2005).

G9.0 Remediation Schedule and Hours of Operation

The remediation works will be conducted within the days and hours specified in the development consent.

G10.0 Response to Incidents

The key to effective management of incidents is the timely action taken before any situation reaches a reportable or critical level. Therefore, surveillance activities are extremely important, and should be conducted for the measures prescribed herein and any other measures prescribed in any additional environmental management plan developed subsequently. During construction activities on the site, the following inspection or preventative actions should be performed by the Remediation Contractor:

- Regular inspection of works;
- Completion of routine environmental checklists and follow-up of non-compliance situations;
- Maintenance and supervision on-site; and
- An induction process for site personnel involved in the remediation works that includes relevant information on the contamination status of the site, the remediation works being undertaken, worker health and environmental protection requirements and ensures that all site personnel are familiar with the site emergency procedures.

An emergency response plan will be in place for all aspects of site works. Any emergency will be reported immediately to the site office and/or the Site Manager (and Safety Officer), and the appropriate emergency assistance should be sought. The Site Manager should be responsible for initiating an immediate emergency response using the resources available on the site. Where external assistance is required, the relevant emergency services should be contacted. A table such as that below, containing contact details for key personnel who may be involved in an environmental emergency response should be completed and be readily available to personnel at all times. The table should be completed, and thereafter amended, as required.

The Remediation Contractor will be responsible for ensuring that site personnel are aware of the emergency services available and the appropriate contact details. A site Safety Officer should be contactable, or available, on-site during remediation and development works.

Contact details for key utilities are included in the event of needing to respond to incidents. Blank cells are ‘to be confirmed’ and should be completed prior to works commencing when all entities are confirmed.

Table 1: Summary of Roles and Contact Details

Role	Personnel / Contact	Phone Contact Details
Principal		
Principal's Representative		
Site Manager		
Remediation Contractor and Builder		
Site Office		
Environmental Consultant		
Consent Authority		
Regulator	NSW EPA (pollution line and general enquiries)	131 555
Utility Provider	Water (Sydney Water Corporation)	13 20 92
Utility Provider	Power (Ausgrid)	13 13 88
Utility Provider	Gas (Jemena Limited)	131 909
Utility Provider	Telecommunications (Telstra Corporation Limited)	13 22 03
Utility Provider	Telecommunications (Optus)	1800 505 777
Utility Provider	Telecommunications (NBN Co Limited)	1800 626

G11.0 References

ANZG. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality.* Canberra, ACT: Australian and New Zealand Governments and Australian state and territory governments.

CRC CARE. (2019). *Remediation Action Plan: Implementation - Guideline on Health and Safety.* National Remediation Framework: CRC for Contamination Assessment and Remediation of the Environment.

NOHSC. (2005). *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Ed.* Canberra, April 2005, NOHSC:3003: National Occupational Health and Safety Commission, Commonwealth of Australia.

NSW EPA. (2020). *Guidelines for Consultants Reporting on Contaminated Land.* Contaminated Land Guidelines: NSW Environment Protection Authority.

SafeWork NSW. (2019a). *Code of Practice, How to Manage and Control Asbestos in the Workplace.* August 2019.

SafeWork NSW. (2019b). *Code of Practice, How to Safely Remove Asbestos.* August 2019: SafeWork NSW, NSW Government.

WorkCover NSW. (2014). *Managing Asbestos in or on Soil.* March 2014: WorkCover NSW, NSW Government.

Douglas Partners Pty Ltd