

15 February 2023

Landcom Attn: Thomas Gianatti Level 14, 60 Station Street East Parramatta NSW 2150

By email: tgianatti@landcom.nsw.gov.au

Dear Thomas

RE: INTERIM AUDIT ADVICE LETTER NO. 1 - REMEDIATION ACTION PLAN, PROPOSED LOT 5, PRECINCT 3 EDMONDSON PARK

1. INTRODUCTION

1.1 Audit Details

As a NSW Environment Protection Authority (EPA) accredited Contaminated Sites Auditor, I am conducting a site audit (**RS 162**) under the NSW *Contaminated Land Management Act 1997* (CLM Act) in relation to Landcom Precinct 3 Edmondson Park.

This initial review has been undertaken to provide an independent review of the suitability and appropriateness of a Remediation Action Plan (RAP) for a portion of Precinct 3 Landcom Edmondson Park (Precinct 3) (Lot 2, Lot 3, Lot 5 on DP1272931).

Approximately 17.91 hectares of this land is being developed for a mix of proposed general residential lots, road reserve areas and open space land use as discussed in **Section 1.2** (referred to herein as the Development Site).

The subject of this review is the land being developed for general residential lots and road reserve areas (i.e., excludes the areas identified for public open space land use) and is referred to as the "investigation area" with approximate area of 11.26 ha (referred to herein as **the site** and is the subject of the Lot 5 RAP).

The site is legally identified as part Lot 5; part Lot 2 (small area to be used as a detention basin) and part of Lot 3 (small area to be used as access to Lot 5 for development earthworks) on DP1272931.

It is anticipated that the open space areas will be addressed as part of a separate RAP (Lot 3 RAP) and Audit review.

More broadly, the Landcom Edmondson Park property is part of the former Ingleburn Defence Site (IDS), being a parcel of land (93 ha) transferred from Department of Defence (DoD) to the ownership of Landcom under a 1993 Ramboll Australia Pty Ltd Level 3, 100 Pacific Highway PO Box 560 North Sydney NSW 2060

T +61 2 9954 8100 www.ramboll.com

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agreement to facilitate urban development in this area of the Southwest Growth Corridor as a component of a Part 3A Concept Plan approval known as Edmondson Park South.

1.2 Background

The RAP has been prepared to support a development application (DA) for the subdivision of the site, which the Part 3A Concept Plan indicates will be developed for a mix of proposed general residential lots and road reserve areas.

The site forms an area to the north of Campbelltown Road and east of Zouch Road surrounding the Ingleburn Military Heritage Precinct.

Landcom intends to undertake subdivision construction works including bulk earthworks to achieve site development levels to prepare the site for divestment as general residential lots and road reserve areas to facilitate the proposed residential development.

The IDS (including the site) has been subject to many previous investigations and remediation culminating in the following site audits:

- 'Department of Defence Non-Statutory Site Audit Report and Site Audit Statements Defence Ingleburn Site Ingleburn NSW', Tony Scott (ENVILCOV00208AB-01) of Coffey Environmental, July 2009 (Coffey 2009) (a Section B Audit reviewing investigations)
- 'Site Audit Statement (and Report) Defence Ingleburn Site Campbelltown Road, Ingleburn NSW', Frank Mohen (FM95A) of AECOM Australia Pty Ltd (AECOM), 7 December 2009 (AECOM 2009) (a Section B Audit reviewing a remedial action plan for the IDS)
- 'Site Audit Report Defence Ingleburn Site, Campbelltown Road, Ingleburn, NSW', Frank Mohen (FM95C) of AECOM, 25 July 2011 (AECOM 2011) (a Section A Audit certifying the IDS as suitable for residential land use).

These site audits have been relied upon for the purpose of the current review and ongoing RS 162 site audit.

The site has more recently been the subject of due diligence investigations by JBS&G Australia Pty Ltd (JBS&G) on behalf of Landcom to assess suitability for the proposed development. The Due Diligence Review indicated site assessment activities have confirmed the presence of residual asbestos containing material (ACM) impacts at the site associated with former infrastructure including limited Telstra pits, underground pipework and fragments/sheeting associated with remnants of former buildings. There was no evidence of significant widespread impacted soil volumes at the site. However, the Due Diligence Review states it should be anticipated that future site development earthworks may identify further isolated areas of ground surface impacts and fill material containing ACM. Further Detailed Site Investigations (DSIs) were conducted confirming this outcome and the Lot 5 RAP was prepared to address the asbestos impacts and to provide a contingency framework for unexpected finds.

1.3 Scope of Work

This interim letter is based on a review of the previous site audits (relied upon), the documents listed below, and observations made during a site visit on 17 October 2022, as well as discussions with Landcom and JBS&G. The reports reviewed were:

- 'Detailed Site Investigation, Lot 5, Precinct 3 Edmondson Park Campbelltown Road, Edmondson Park, NSW', JBS&G, 6 July 2021 (**Due Diligence Review**)
- `Edmondson Park, Precinct 3, Lots 3 & 5, Preliminary Site Investigation, Campbelltown Road, Edmondson Park', JBS&G, 9 September 2022 (**PSI**)
- 'Residential Development, Edmondson Park South Results of Geotechnical Investigation', PSM Consult Pty Ltd (PSM), 24 November 2022 (**Geotechnical Investigation**)

- Response to auditor comments Edmondson Park, Precinct 3, Lots 3 & 5, Sampling, Analysis and Quality Plan, Edmondson Park, NSW', JBS&G, 14 October 2022
- 'Edmondson Park, Precinct 3, Lots 3 & 5, Sampling Analysis and Quality Plan, Campbelltown Road, Edmondson Park', JBS&G, 14 October 2022 (**DSI SAQP**)
- 'Response to Auditor Comments Edmondson Park, Precinct 3, Lots 3 & 5, Detailed Site Investigations, Edmondson Park, NSW', JBS&G, 20 January 2023
- `Edmondson Park, Precinct 3, Lot 5 Detailed Site Investigation, Campbelltown Road, Edmondson Park', JBS&G, 8 February 2023 (Lot 5 DSI)
- Letter 'Response to Auditor Comments Edmondson Park, Precinct 3, Lot 5, Detailed Site Investigations and Remedial Works Plans, Edmondson Park, NSW', JBS&G, 8 February 2023
- `Addendum DSI Additional Investigation Residential Landuse Precinct 3, Edmondson Park, NSW', JBS&G, 8 February 2023 (Lot 5 Addendum DSI)
- 'Edmondson Park, Precinct 3, Lot 5, Remedial Action Plan, Campbelltown Road, Edmondson Park', JBS&G, 14 February 2023 (Lot 5 RAP).

The Due Diligence Review, PSI and Geotechnical Investigation were completed prior to the Auditor's engagement. The DSI fieldworks were undertaken after Auditor review of the DSI SAQP.

I have reviewed the reports against the requirements of guidelines made or approved under Section 105 of the CLM Act, including the following:

- Chapter 4 Remediation of Land in the Resilience and Hazards State Environment Planning Policy (SEPP) (2021) (SEPP R&H, formerly known as SEPP 55) and NSW Department of Urban Affairs and Planning and NSW EPA (1998) 'Managing Land Contamination, Planning Guidelines SEPP 55 -Remediation of Land'
- National Environment Protection Council (NEPC) 'National Environment Protection (Assessment of Site Contamination) Measure 1999', as Amended 2013 (NEPM 2013)
- NSW EPA (2016) 'Environmental Guidelines: Solid Waste Landfills'
- NSW EPA (2017) 'Guidelines for the NSW Site Auditor Scheme (3rd Edition)'
- NSW EPA (2020) 'Contaminated Land Guidelines, Consultants Reporting on Contaminated Land'
- Australia and New Zealand Heads of EPAs (HEPA 2020) 'PFAS National Environmental Management Plan, Version 2.0'
- NSW EPA (2022) 'Contaminated Land Guidelines, Sampling design part 1 application' and 'Contaminated Land Guidelines, Sampling design part 2 – interpretation'.

2. SITE DETAILS

2.1 Location

The site details are as follows:

Street address:	Campbelltown Road, Edmondson Park, NSW 2174
Identifier:	Part Lots 2, 3 & 5 DP1272931
Local Government:	Liverpool City Council
Site Area:	Approximately 11.26 Ha

Zoning:

C1: National Parks and Nature Reserves, R1: General Residential, RE1: Public Recreation

Attachment 1 shows the location of the Development Site (shown as "site" in the key).

Attachment 2 shows the location of Precinct 3 (shown as "Conceptual Site Boundary" in the key), the Development Site (shown as "Approximate Site Boundary") in the key and the site (shown as "Residential Area" in the key).

The cadastral lot boundaries are also shown on Attachment 2.

The boundaries of the site are not well defined by streets or adjoining properties. It is anticipated a survey plan or equivalent will be obtained during the site audit.

2.2 Adjacent Uses

Surrounding land-uses include:

- North: additional areas of Lot 3 to the northwest, vegetated areas of the Edmondson Regional Park and Lot 2, including the former IDS parade ground
- East: MacDonald Road with a new residential estate beyond
- South: Ingleburn Military Heritage Precinct and Campbelltown Road with new residential developments and associated recreational open space/community facilities beyond. Road widening works and infrastructure improvements have recently been completed, or were in progress along Campbelltown Road
- West: immediately adjacent western portion of Lot 3. Electrical substation compound in the southwest, beyond the site boundary, with the Zouch Road corridor to the west of the investigation area/this infrastructure. Beyond the road is a continuation of the Edmondson Regional Park in the north of the investigation area with a Jehovah's Witness Church compound to the west of the balance of the investigation area.

2.3 Site Condition

JBS&G reported the following site condition in the Lot 5 DSI, which was confirmed during my inspection.

Most of the site and surrounds were covered by dense vegetation including overgrown grass, shrubs and trees. Areas of manicured grass were identified in the south-western portion. A range of residual building footprints were observed to remain as exposed concrete and tiled pads. Concrete pathways remained in the proximity of former structures. Asphalt paved roadways were located on the site and the surrounds associated with the Ingleburn Military Heritage Precinct.

Remnants of services infrastructure were observed, including fire hydrants and associated hose mounts. Telegraph poles were identified adjacent to roadways throughout the investigation area and in areas where historical buildings were formerly located.

Remnant garden beds and retaining walls were identified to generally be of concrete, brick and/or rock materials and were observed adjacent to roadways and historical building footprints. No standing or flowing water was observed across the investigation area at the time of the investigation.

2.4 Proposed Development

The Part 3A Concept Plan indicates the site will be developed for a mix of proposed general residential lots and road reserve areas. The proposed development is considered to fall within a 'residential with soil access' exposure scenario.

3. SITE HISTORY

The site history has been reviewed in detail for the previous site audits. The site was part of the land known as the IDS which had been occupied by DoD since 1939 and primarily used as an infantry training camp. The RAP indicates historical areas of impact or activities that may have caused impacts across the IDS (incorporating the site and immediate surrounds) comprised:

- Unidentified buried waste and buried objects across the main area of the IDS
- Unexploded ordnance (UXO)
- Small arms range (remote from the current assessment site and immediate surrounds)
- Maintenance compounds, fuel stores and workshops (including various underground storage tanks (USTs))
- Transformers and switch gear
- The poisons shed south of Block I (remote from the site and immediate surrounds)
- The margins surrounding former site buildings that may have been impacted by lead paint particulates
- The nursery/ground maintenance compound (remote from the site and immediate surrounds)
- Road margins, fence lines, parade grounds and ovals
- Fly tipped material around the site.

The site and immediate surrounds were defined by DoD as Blocks D, E and F.

Historical decommissioning and remediation work undertaken broadly across the IDS including the site, and forming the subject of the previous Audits, included:

- Removal and off-site disposal of fly-tipped and identified buried waste materials
- Building demolition and associated removal of hazardous building materials (lead and/or asbestos)
- Excavation and off-site disposal of a small number of surface soil contamination hotspots
- Decommissioning and removal of USTs and associated infrastructure in addition to excavation and on-site treatment/off-site disposal of hydrocarbon impacted soil and rock
- Reinstatement of resulting excavations via backfill with validated fill material or regrading and contouring of ground levels to facilitate surface water drainage
- Removal of sumps/interceptor pits
- Surface scrapes for some areas of ACM impact including building footprints and fly tipped waste
- Groundwater investigation was completed to close out the potential risks to human health and/or the environment from groundwater contaminant migration.

3.1 Auditor's Opinion

These historical areas of impact or activities were assessed during previous investigations, remediation and validation and reviewed for the previous site audits. The IDS, including the site, was found suitable for residential land use by FM95C.

The PSI and Due Diligence Review by JBS&G included a more detailed review of historical development records and inspection to map areas for potential investigation of contamination issues, primarily related to ACM, buried waste, fly tipped stockpiles and per- and poly fluoroalkyl substances (PFAS) impacts at the site. This guided the scope of work conducted for the Lot 5 DSI and Lot 5 Addendum DSI which

included a soil and groundwater assessment for PFAS. Based on this, further remediation is proposed at the site to address ACM and provide a framework for unexpected finds during earthworks by Landcom.

4. CONTAMINANTS OF CONCERN

The Lot 5 RAP states (based on the Lot 5 DSI and Lot 5 Addendum DSI) that contamination at the site has been found to be limited to asbestos impacts, assumed to be associated with historical site development, demolition and/or imported fill material.

4.1 Auditor's Opinion

Based on the previous site audits and investigations completed by JBS&G, I agree asbestos is the contaminant of concern remaining at the site requiring remedial action or management (unexpected finds procedure).

5. STRATIGRAPHY AND HYDROGEOLOGY

5.1 Stratigraphy

The Lot 5 RAP states the Penrith 1:100 000 Geological Series Sheet 9030, NSW Department of Mineral Resources, 1991 indicates the site is underlain by shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff of the Wianamatta Group.

Field investigations have encountered fill material to depths ranging from 0.2 to 0.8 metres (m). The fill typically comprised of silty clay with inclusions of gravel, concrete and organic material. Fill was underlain by residual undisturbed orange/red/grey clay to the maximum depth of the completed test pits. No seepage water was identified within the test pits.

5.2 Hydrogeology

The Lot 5 RAP states a search of the registered groundwater bores identified 1 bore within 1.5 km of the investigation area. No further details were included on the bore record. Based on the geological conditions, groundwater at the site is expected to occur within the shale bedrock underlying the investigation area at variable depths, typically associated with changes in permeability at the soil-rock interface and within faults/fractures in the shale bedrock. Given the residence time and rock formation conditions, groundwater within these profiles is anticipated to be saline and non-potable. The potential for groundwater movement is likely to be low given the low permeability of the clay and shale profile.

It is anticipated that regional groundwater flow will occur towards the east-north-east and the unnamed drainage lines extending toward Glenfield, ultimately moving toward the Georges River over 6 km to the east of the site.

Groundwater sampling was conducted on 28 October 2022 for the Lot 5 DSI. The measured depth to groundwater at the time of gauging was between 6.796 m and 7.823 m below top of casing (mbTOC), which was more elevated than the water strike zones observed within the weathered shale rock during the drilling program, identified to be at depths of 10-12 m below ground level (mbgl). This indicates that groundwater at Precinct 3 is likely to be present within a confined/semi-confined system.

Interpolated groundwater contours are shown on **Attachment 3** and the direction of groundwater flow is inferred to be generally toward the northeast, with the local topography influencing groundwater flow.

5.3 Auditor's Opinion

The depth of fill and underlying stratigraphy and hydrogeology have been adequately characterised for remedial planning.

6. EVALUATION OF QUALITY ASSURANCE AND QUALITY CONTROL

I have assessed the quality of the recent information collected by JBS&G as summarised in **Table 6.1**. The SAQP for the DSI was reviewed during the course of the audit. The previous site audits have been relied upon for assessing the data quality associated with earlier reports.

Investigations	Field or Desktop Investigations	Analytical Data Obtained
Due Diligence Review	Fieldwork June 2021 44 x targeted test pits (TP01 to TP44) across Lot 5 (including a few outside the site boundary, TP07 and TP44) Fragments of potential ACM (FRAG01 to FRAG08) Groundwater monitoring event (GME) (existing well MWF3) (9 June 2021) Investigation locations shown on Attachment 4 .	<i>Soil:</i> PFAS, asbestos (500 mL laboratory analysis for asbestos fines/fibrous asbestos (AF/FA) (%w/w) and 10 L field screening for ACM (%w/w)) <i>Fragments of potential ACM:</i> asbestos identification (FRAG01 to FRAG08) <i>Groundwater:</i> PFAS
PSI	Desktop review of site history and site condition records to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs). Compilation of historical aerial photographs, environmental setting with reference to relevant published maps and other information including topography, hydrology, soils, geology, hydrogeology and land uses, Council planning certificates, current and historical land title records, Office of Environment and Heritage (OEH) heritage records, EPA notifications, EPA contaminated land records and licensed groundwater bore data. Review of previous site contamination assessment documentation, including site audit reports available for the site. <i>Site inspection August 2022.</i>	Desktop only
Lot 5 DSI	Fieldwork October 2022 16 x test pits (DG08 to DG14, NH01 to NH03 and trenches HD03 to HD08) Installation 3 x groundwater monitoring wells (by Pells Sullivan Meynink (PSM) for the Geotechnical Investigation) GME (28 October 2022) (MW01 to MW03, MWF3) Investigation locations shown on Attachment 4 .	<i>Soil:</i> metals, polycyclic aromatic hydrocarbons (PAHs), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, and xylenes (BTEX), organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs), PFAS and asbestos (500 mL and 10 L) <i>Groundwater:</i> metals, TRH, BTEXN, PAHs, PFAS
Lot 5 Addendum DSI	Fieldwork December 2022 2 x test pits (DG15 and DG16) in Lot 2 area of proposed detention basin 3 x investigation trenches around DG09 (asbestos impact) (DG09_E, DG09_S and DG09_W) Fragments of potential ACM (FRAG01) Investigation locations shown on Attachment 4 .	<i>Soil:</i> metals, PAHs, TRH, BTEX, OCPs, PCBs, PFAS and asbestos (500 mL and 10 L)

Table 6.1: Summary of Investigations

I have assessed the overall quality of the data by review of the information presented in the referenced reports, supplemented by field observations. My assessment follows in Tables 6.2 and 6.3.

Table 6.2: QA/QC – Sampling and Analysis Methodology Assessment

Sampling and Analysis Plan and Sampling Methodology	Auditor's Opinion
<i>Data Quality Objectives (DQO)</i> JBS&G defined specific DQOs in accordance with the seven-step process outlined in	These were considered appropriate based on my
 The Problem is summarised as the site and surrounds are proposed to be developed for mixed land use including residential and recreational/open space. The desktop review and site inspection undertaken for the PSI identified a range of potential AECs requiring further site assessment. As a result, further site assessment including soil and groundwater sampling and visual inspection was required to characterise contamination conditions at the site that might be potentially unacceptable for the proposed development from a health and ecological health perspective such that conclusions/recommendations could be drawn on the suitability of the site for the proposed development. The Decisions were identified as: Are there any unacceptable risks to likely future on-site receptors? Are there any issues relating to background soil concentrations that exceed appropriate site soil criteria? Are there any unacceptable human health and ecological risks present in surface and/or groundwater underlying the investigation area? Are there any aesthetic issues at the investigation area? Is there any evidence of, or potential for, migration of contaminants from the investigation area? Is a site management strategy required? 	project objectives.
Sampling pattern and locations, density and depth Soil: A targeted sampling program to assess ground conditions associated with remnant building slabs, underground services and/or potential locations of formwork with subsequent documentation and mapping of identified areas of ACM. The PFAS in soil sampling program was designed to assess surface and near surface soil conditions in relation to potential for PFAS impacts associated with potential historical use of such chemicals at the site. The sampling strategy comprised the identification of highest potential risk of historical use and/or impacts at the site and consequent sampling of these locations. This included historical burn pit remedial excavations, former areas of buried rubbish rehabilitation and surface water drainage line surface soils. Other potential locations including interceptor pits and the transport depot compound situated within Precinct 3, are located beyond the Lot 5 footprint. At each intrusive sampling location, representative surface soils were to be targeted for sampling and analysis based on the anticipated CSM, with surface soils being of greatest risk of impact, apart from areas that were backfilled following previous remediation works, whereby sampling was targeted to the underlying former exposed excavation face. At each sampling location, an additional undisturbed natural soil sample was also obtained approximately 0.3- 0.5 m below the target sample. The combination of the above resulted in a sampling plan comprising completion of targeted soil sampling locations with 44 test pit locations undertaken across Lot 5 for the Due Diligence Review. A total of 10 additional sampling locations (including former building footprints and fill across the site) were completed in a combination of systematic and targeted locations skewed towards AECs. Targeted judgemental sampling (seven locations, DG08 - DG14) in previously validated areas to further characterise asbestos and other chemical COPC to increase density and analytical suite. This ad	The soil and groundwater sampling pattern, locations, density and depth were adequate to address the DQOs and address minor data gaps, refine the understanding of the location and extent of ACM and to confirm PFAS is not a contaminant of concern. The historical investigation locations (reviewed for the previous site audits) consolidated with the Due Diligence Review and Lot 5 DSI samples are shown on Attachment 4 . This demonstrates a reasonable density of overall coverage across the site. However, it is noted the density for asbestos sampling (65 locations over ~11 ha) is less than double the guideline (NSW EPA 2022) which requires a minimum of 55 for 5 ha (and this doubled and scaled up for 11 ha). Uncertainty relating to asbestos is to be managed by the unexpected finds procedure.

Sampling and Analysis Plan and Sampling Methodology	Auditor's Opinion
drainage pipework to assess the potential presence of ACM conduits and/or historical drainage infrastructure, to characterise the construction materials identified and to establish requirements for management decisions such that measures may be included in the Lot 5 RAP.	
Additional intrusive investigation locations (DG15 and DG16) within the additional area of the site proposed for the stormwater detention basin were assessed for the Lot 5 Addendum DSI. Asbestos was identified in fill at DG09 during the Lot 5 DSI and delineation intrusive investigations surrounding the eastern, southern and western aspects were undertaken for the addendum.	
Test pits were extended through the fill profile to a maximum depth of 1 m or at least 0.5 m into natural soil, or prior refusal, whichever was shallowest. Soil samples were collected at the surface $(0-0.1 \text{ m})$, 0.3 m, 0.5 m and then at 0.5 m intervals (or similar) to be representative of soil horizons.	
<i>Groundwater:</i> PFAS groundwater assessment for the Due Diligence Review was limited to the one identified viable historical well (MWF1) located upgradient of Lot 5, but downgradient of the former UST locations and other areas of the Precinct 3 western area. On this basis, implementation of sampling at this location was considered by JBS&G valid to provide a preliminary indication of potential PFAS in groundwater impacts at the site in conjunction with the surface soil sample activities above.	
An additional three wells (MW01 to MW03) were installed for the Lot 5 DSI. MW03 was installed on the northern boundary of the site. Two monitoring wells were installed on the down-gradient boundary of Precinct 3 (MW01) and hydraulically down-gradient of the location of historical site features (including potential historical impacts from the Petrol Oil and Lubricant (POL) depot and the location of the historical underground petroleum storage area), within Precinct 3, but external to the current site (MW02). JBS&G state whilst the groundwater investigation is largely targeted to AECs, the spacing of the monitoring wells toward the up and down-gradient boundaries of the site provides for the assessment of broadscale groundwater conditions at the site.	
Well construction	Adequate
<i>Groundwater:</i> MW01 to MW03 were installed by PSM during the Geotechnical Investigation. MW01/BH30, MW02/BH29 and MW03/BH15 were installed in October 2022 to between 10 and 12 m with 3 m of screen from the base within shale placed in gravel filter pack. Wells were constructed of 50 mm uPVC. A bentonite seal of 1 m thickness was placed above the screen to the top of the filter and the well backfilled with soil cuttings or cement grout to the ground surface. Water was encountered at ~10 mbgl in the 12 m deep well (MW01 and MW02) and ~8 mbgl in the 10 m deep well (MW03). Standing water levels (SWLs) were recorded at 7.82 mBTOC (BH30/MW01), 9.78 mBTOC (BH29/MW02), 6.80 mBTOC (BH15/MW03) and 6.94 mBTOC (MWF3) in October 2022. The water ingress intersects the screen interval with SWLs rising above the screen. Well construction for MWF3 would have been reviewed for the relied upon previous site audits and no issues were identified.	
Sample collection method	Adequate, although it is
<i>Soil</i> : Samples from each of the investigations were collected from test pits. During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination were noted on field logs. Samples were collected by JBS&G personnel wearing fresh disposable nitrile gloves for each sample. Within test pits, soil samples were collected from the middle of the backhoe bucket to minimise disturbance and risk of cross contamination	noted that collection of the 500 mL sample for AF/FA analysis after passing through the 7 mm sieve can result in false positives.
The methodology for asbestos quantification (AQ) completed is in general accordance with the procedures included in NEPM (2013) as derived from the <i>Guidelines for the Assessment Remediation and Management of Asbestos Contaminated Sites in Western Australia</i> , May 2009, Western Australia Depart of Health (WA DOH) (DOH 2009).	
The works were completed via the excavation of test pits using a backhoe. At each sampling location, material from each increment was collected on a separate plastic sheet that was distinctly different to the soil colour and spread out for inspection. Any obvious ACM fragments were placed in a dedicated laboratory supplied polyethylene ziplock sample bag labelled with the sampling location, depth increment, samplers name and sampling date. For coarse grained material (ie. sand, gravels, etc), the 10 L of material was then passed through a 7 mm sieve in	

Sai	npling and Analysis Plan and Sampling Methodology	Auditor's Opinion
the	field. The material captured on the sieve was then hand sorted and any further	
A residue of the the Any	epresentative 500 mL volume sample of material passing through the 7 mm ve was then collected and placed in a separate dedicated laboratory supplied vethylene ziplock sample bag, labelled as a soil sample. The soil samples were n submitted under chain of custody procedures for laboratory analysis to assess presence of AF/FA within the soil in accordance with DOH (2009).	
wer witl rec	weighed in-house by JBS&G personnel using an externally calibrated scale in an accuracy of 1 g with the mass of ACM fragments in each increment sample prded.	
Gra dep the whi the PFA	<i>undwater</i> : For the Due Diligence Review and Lot 5 DSI, prior to sampling, the ths to standing water were gauged with an interface probe to assess SWLs and potential presence of light non-aqueous phase liquid (LNAPL). A Hydrasleeve, ch comprises a flexible 3 mm thick lay-flat polyethylene sleeve with a weight on bottom and check valve on the top, were used for the sampling and analysis of <i>S</i> in groundwater via the following procedure:	
•	The decontaminated HydraSleeve sampler (noting the sleeve is single use and the weight and clip are re-usable and decontaminated) was lowered into the well to the prescribed sampling depth (i.e., within the screened interval based on original installation detail records)	
•	After placement in the monitoring well, the HydraSleeve was left for a minimum of one hour to allow the water column to re-equilibrate following the minor disturbance that occurs during deployment	
•	The groundwater sample was then collected by pulling the HydraSleeve up through the water column, to the surface. The recovered water sample was then decanted into the PFAS appropriate laboratory supplied sample bottles	
•	A portion of the purged groundwater was run through a water quality meter and field parameters were recorded	
•	Each of the sample bottles were labelled using ball point pens with the project ID, date, sampler's initials and unique monitoring well ID (or duplicate/triplicate sample name)	
•	Sample bottles were immediately placed into a pre-chilled ice chest for transport to the testing laboratories, with ice double-bagged to reduce cross-contamination risk.	
Dec	contamination procedures	Adequate
All loca	non-disposable sampling equipment was decontaminated between sampling ations.	
Bef equ pro use	ore groundwater sampling, the interface probe and all other non-disposable ipment (i.e. HydraSleeve weights and clips), were decontaminated in line with ject/PFAS-specific wash-down procedures (Liquinox, a PFAS-free detergent was d).	
Sar	nple handling and containers	Adequate
Sar the Sar plas labo	nples were placed into prepared and preserved sampling containers provided by laboratory and chilled during storage and subsequent transport to the labs. nples for asbestos and PFAS assessment were placed on ice in separate sealable stic bags, prior to same day delivery to the laboratory. PFAS appropriate oratory supplied sample bottles were used for groundwater.	
Cha	in of Custody (COC)	Adequate
All Ass	samples were transported under standard JBS&G COC protocols to a National ociation of Testing Authority (NATA) accredited laboratory.	
Det	ailed description of field screening protocols	Adequate
Dur coll labo hyc bag bag	ing site works, sufficient sample material at each location and depth was ected to allow for field testing using a photo-ionisation detector (PID) and pratory analyses to assess the potential presence of VOCs including petroleum rocarbons. Samples obtained for PID screening were placed in a sealed plastic for approximately 5 minutes to equilibrate, prior to a PID being attached to the . Readings were then monitored for a period of approximately 30 seconds or il values stabilise and the stabilised/highest reading was recorded on the test pit s. The PID was calibrated prior to the commencement of field works and then	

Sampling and Analysis Plan and Sampling Methodology	Auditor's Opinion
check readings were completed on a daily basis during the field program using suitable calibration gas. If required, the PID was recalibrated during the field program in accordance with manufacturer's instructions.	
<i>Calibration of field equipment</i> The reports indicated that calibration of the PID had been undertaken prior to use and checks were performed during use. Calibration certificates for the PID and groundwater quality meters and the interface probe were provided where relevant.	Adequate
Sampling logs Soil logs are provided within the reports, indicating sample depth, PID readings (where relevant) and lithology. Groundwater field sampling records were provided, indicating SWL, field parameters, methodology and observations.	Adequate

Table 6.3: QA/QC – Field and Lab Quality Assurance and Quality Control

Field and Lab QA/QC	Auditor's Opinion
Field quality control samples and results Field quality control samples for the investigations reviewed included trip blanks, trip spikes, rinsate blanks, field intra-laboratory and inter-laboratory duplicates. The results were within acceptable control limits.	Adequate
NATA registered laboratory and NATA endorsed methods The laboratories were Eurofins mgt (Eurofins) as the primary laboratory, with Envirolab Services (Envirolab) as the secondary laboratory for each of the investigations. The laboratory test certificates were NATA stamped (except for AQ results).	Adequate
Analytical methods Analytical methods were included in the laboratory test certificates.	Adequate
<i>Holding times</i> Review of the COCs and laboratory certificates indicate that the holding times were met. JBS&G also reported that holding times were met.	Adequate
Laboratory Limits of Reporting (LORs) LORs were less than the threshold criteria for the contaminants of concern except for asbestos. The NATA accredited limit of detection for asbestos in soil was 0.01% w/w. However, the laboratories reported to 0.001 %w/w.	In the absence of any other validated analytical method, the use of a detection limit for asbestos that was not NATA accredited, and equal to the AF/FA HSL, is considered acceptable. Overall adequate.
Laboratory quality control samples and results Laboratory quality control samples including laboratory control samples, matrix spikes, surrogate spikes, blanks, internal standards and duplicates were undertaken by the laboratory. Results were acceptable with respect to control limits.	Adequate
Data Quality Indicators (DQI) and Data Evaluation (completeness, comparability, representativeness, precision, accuracy) Predetermined data quality indicators (DQIs) were set for laboratory analyses including blanks, replicates, duplicates, laboratory control samples, matrix spikes, surrogate spikes and internal standards. These were discussed with regard to the five category areas. The reports reviewed concluded the "data are of an acceptable quality upon which to draw conclusions regarding the environmental condition of the site."	An assessment of the data quality with respect to the five category areas has been undertaken by me and is summarised below.

6.1 Auditor's Opinion

The completeness, comparability, representativeness, precision and accuracy are adequate to meet the project objectives. However, it is noted the density for asbestos sampling is low. Uncertainty relating to asbestos is to be managed by the unexpected finds procedure.

7. ENVIRONMENTAL QUALITY CRITERIA

I have assessed the results against Tier 1 criteria from NEPM (2013). Other guidance has been adopted where NEPM (2013) is not applicable, or criteria are not provided. Based on the proposed land use, the human health criteria for 'residential with soil access' and ecological criteria appropriate for 'urban residential and public open space' were adopted.

I have adopted **soil** assessment criteria from the following sources:

- NEPM (2013) Health Investigation Levels (HILs) for 'residential' (HIL A) land use.
- NEPM (2013) Health Screening Levels (HSLs) for 'Low-High Density Residential' clay soil type. Depth to source adopted was <1 m as an initial screen.
- NEPM (2013) Management Limits (MLs) for petroleum hydrocarbons for 'Residential and Open Space' land use and assuming fine soil texture. Criteria are relevant for operating sites where significant sub-surface leakage of petroleum hydrocarbons has occurred and when decommissioning industrial and commercial sites. They are therefore conservative when applied at the site.
- NEPM (2013) HSLs for Asbestos Contamination in Soil for 'residential' (HSL A) land use:
 - Bonded ACM (0.01% w/w)
 - FA and/or AF (0.001% w/w)
 - All forms of asbestos (no visible asbestos for surface soil).
- HEPA (2020) PFAS National Environmental Management Plan. 'Human health investigation levels' for perfluorooctanesulfonic acid (PFOS)/perfluorohexanesulfonic acid (PFHxS) and perfluorooctanoic acid (PFOA) soil criteria developed for 'residential' land use.
- NEPM (2013) Ecological Screening Levels (ESLs) for 'Urban Residential and Public Open Space' land use, assuming fine soil.
- NEPM (2013) Ecological Investigation Levels (EILs) for 'Urban Residential and Public Open Space' land use. In the absence of site-specific soil data on pH, clay content, cation exchange capacity and background concentrations, the published range of the added contaminant limits (ACL) have been applied as an initial screen.
- Canadian Council of Ministers of the Environment (CCME) (2010) Canadian soil quality guidelines: carcinogenic and other polycyclic aromatic hydrocarbons (PAHs) soil quality guideline (SQG) for benzo(a)pyrene for 'Residential' land use. The SQG has been adopted in place of the NEPM (2013) ESL as it is based on a larger and more up-to-date toxicity database than the low reliability NEPM (2013) ESL.
- HEPA (2020) PFOS and PFOA '*interim soil ecological direct and indirect exposure*' criteria developed for 'residential' (HIL A) land use.

The adopted criteria values for soil are provided in the summary tables in Section 8.

I have adopted **groundwater** assessment criteria from the following sources:

- HSL A for vapour intrusion in fine soil (4-8 m).
- Recreational criteria adopted as a conservative assessment of worker exposure risk during potential excavation works involving interaction with groundwater, from the Australian Drinking Water Guidelines NHMRC (2011) (updated January 2022) (recreational is 10 x the drinking water criteria for health).
- To assess the potential risk of contaminated groundwater migrating from the site to nearby waterbodies, reference has been made to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG 2018). Given the somewhat urbanised nature of the receiving water body, freshwater criteria default guideline values (DGV) for protection of 95% species in a slightly to moderately disturbed ecosystem was adopted.
- Health-based guidance values for PFAS in recreational waters and Tier 1 Screening Values for PFAS in freshwater ecosystems (95% species protection) as presented in the PFAS NEMP (HEPA 2020). Based on the site history, the data set reviewed and the distance to the nearest surface water receptor, the risk of PFAS impact is low. The 95% species protection is considered adequate to provide a screen on this basis.
- Where there are no NSW EPA endorsed thresholds, the laboratory LOR was adopted as an initial screening value.

7.1 Auditor's Opinion

The environmental quality criteria referenced by me are consistent with those adopted by JBS&G. Minor exceptions including ecological assessment criteria for soil (JBS&G derived site specific EILs) were not considered material.

8. EVALUATION OF SOIL RESULTS

Soil results for the Due Diligence Review, Lot 5 DSI and Lot 5 Addendum DSI have been assessed against the environmental quality criteria and summarised in **Table 8.1**. The summary includes data from duplicate samples and from fill and natural materials.

Analyte	n	Detections	Maximum n > Human Health Screening Criteria		n > Terrestrial Ecological Screening Criteria
ACM >7 mm (500 mL) (not in accordance with NEPM)	51	1	0.0137% w/w	1 above HSL A 0.01%	-
AF/FA (500 mL)	51	0	None 0 above HSL detected 0.001%		-
ACM (10 L)	82	13	0.295% w/w	12 above HSL A 0.01%	-
Potential ACM fragments	6	6	Detected	-	-
Benzene	15	0	<0.2	0 above HSL A&B 0-1 m, clay 0.7 mg/kg	0 above ESL (urban residential) (fine) 65 mg/kg
Toluene	15	1	0.2	0 above HSL A&B 0-1 m, clay 480 mg/kg	0 above ESL (urban residential) (fine) 105 mg/kg
Ethylbenzene	15	0	<0.1	0 above HSL A&B 0-1 m, clay NL	0 above ESL (urban residential) (fine) 125 mg/kg

Table 8.1: Evaluation of Soil Analytical Results – Summary Table (mg/kg)

		.		<u>.</u>				
Analyte	n	Detections	Maximum	n > Human Health Screening Criteria	n > Terrestrial Ecological Screening Criteria			
Total Xylenes	15	1	0.3	0 above HSL A&B 0-1 m, clay 110 mg/kg	0 above ESL (urban residential) (fine) 45 mg/kg			
F1 (TRH C_6 - C_{10} minus BTEX)	15	0	<20	0 above HSL A&B 0-1 m, clay 50 mg/kg	0 above ESL (urban residential) 180 mg/kg			
F2 (TRH > C_{10} - C_{16} minus naphthalene)	15	0	<50	0 above HSL A&B 0-1 m, clay 280 mg/kg	-			
TRH C ₆ -C ₁₀	15	0	<20	0 above ML (urban residential) 800 mg/kg	-			
$TRH > C_{10} - C_{16}$	15	0	<50	0 above ML (urban residential) 1000 mg/kg	0 above ESL (urban residential) 120 mg/kg			
TRH > C_{16} - C_{34}	15	0	<100	0 above ML (urban residential) 3500 mg/kg	0 above ESL 1300 mg/kg			
TRH >C ₃₄ -C ₄₀	15	0	<100	0 above ML (urban residential) 10,000 mg/kg	0 above ESL 5600 mg/kg			
Naphthalene	15	0	<0.5	0 above HSL A&B 0-1 m, clay 5 mg/kg	0 above EIL (urban residential) 170 mg/kg			
Benzo(a)pyrene	15	0	<0.5	-	0 above CCME SQG (residential) 20 mg/kg			
Benzo(a)pyrene TEQ	15	0	<1.2	0 above HIL A 3 mg/kg	-			
Total PAHs	15	0	<0.5	0 above HIL A 300 mg/kg	-			
Arsenic	15	15	15	0 above HIL A 100 mg/kg	0 above EIL (urban residential) 100 mg/kg			
Cadmium	15	0	<0.4	0 above HIL A 20 mg/kg	-			
Chromium	15	15	32	0 above HIL A 100 mg/kg	0 above most conservative ACL (urban residential) 190 mg/kg			
Copper	15	14	42	0 above HIL A 6000 mg/kg	0 above most conservative ACL (urban residential) 60 mg/kg			
Lead	15	18	75	0 above HIL A 300 mg/kg	0 above generic ACL (urban residential) 1100 mg/kg			
Mercury	15	0	<0.01	0 above HIL A 40 - mg/kg				
Nickel	15	13	15	0 above HIL A 400 mg/kg	0 above most conservative ACL (urban residential) 30 mg/kg			
Zinc	15	14	84	0 above HIL A 7400 0 above an ACL (ur mg/kg residential) 120 mg				

Analyte	n	Detections	Maximum	n > Human Health Screening Criteria	n > Terrestrial Ecological Screening Criteria
РСВ	18	0	<0.1	0 above HIL A 1 mg/kg	-
OCP	15	4	0.21	0 above HIL A	0 above EIL
Perfluorooctanoic acid (PFOA)	56	1	0.0001	0 above PFAS NEMP 2020 HIL A of 0.1 mg/kg	0 above ecological direct of 10
Perfluorooctanesulfonic acid (PFOS)	56	3	0.0022	-	0 above ecological direct of 1 0 above ecological indirect of 0.01
Sum of PFHxS and PFOS	56	3	0.0035	0 above PFAS NEMP 2020 HIL A of 0.01 mg/kg	-

- No criteria available/used

NL Non-limiting

<LOR Less than the limit of reporting

The Lot 5 RAP provides a summary of the data as follows:

- At the completion of the site assessment activities JBS&G has assessed that site contamination is limited to asbestos impacts, assumed to be associated with historical site development, demolition and/or imported fill material at the site.
- Bonded ACM observed on the ground surface has been identified during site inspection/assessment activities at scattered locations across the site, including at FRAG01 (TP30), FRAG02, FRAG06 (TP13) and FRAG08 (TP40), TP24/TP36 and TP37 as shown in Attachment 4.
- Given the extent of vegetation cover (and low sampling density), additional areas of surface ACM fragments are expected to occur in addition to the above noted areas. Limited anthropogenic material, including bricks, were also observed on the surface and within the fill, which indicates the potential for associated further asbestos impacts as a result of demolition activities.
- Bonded ACM fragments were also encountered in fill material at eleven sampling locations and three delineation trenches. Asbestos quantification (AQ) results identifying concentrations of bonded ACM in fill exceeding the adopted assessment criteria at three test pit locations (TP25, TP42 and DG09) and in the delineation trenches surrounding the exceedance area at DG09 as shown on **Attachment 4**. Concentrations of bonded ACM in fill material were reported to be less than the adopted criteria at additional sampling locations TP06, TP13, TP24, TP28, TP30, TP36, TP37 and TP40 (JBS&G 2021) and within the outer extent of delineation trenches surrounding the exceedance area at DG09.
- Bonded ACM in fill material exceeding the adopted health screening criteria was identified at TP25 from 0.2 mbgl and 0.4 mbgl (as detailed in JBS&G 2021). Bonded asbestos fragments were identified in the sub-surface fill layer and, accounting for additional overlying fill excavation anticipated during removal, comprises an estimated total volume of 460 m². Observations of the material at this location identified no difference in the overlying surface fill materials. The lateral extent of this identified impact is estimated to the location of the surrounding samples and vertical depth is based on 0.4 mbgl.
- Bonded ACM in fill material exceeding the adopted health screening criteria was identified at TP42 comprising a raised garden bed between surface and 0.2 mbgl. Bonded asbestos

fragments identified within the fill material are estimated to comprise a volume of approximately 40 m^2 , based on the assumption that ACM contamination is limited to surficial soil in the garden bed.

- Bonded ACM in fill material exceeding the adopted health screening criteria was identified at DG09. Assessment of potential impacts by JBS&G further north was limited due to dense vegetation. JBS&G stated that given the information obtained from the other delineation locations, it was assumed that the impact to the north extended an approximate similar distance as assessed for the south, east and west; namely 5 m to the east, 6 m to the south and 7 m to the west.
- These fragments were identified from ground surface to between 0.4 mbgl (DG09_S) and 0.7 mbgl (DG09_0-0.7), comprising an approximate volume of 150 m³ (lateral extent is based on the area to each of the nearest sampling locations where asbestos impacts were not identified, the location of the surrounding samples, and vertical depth based on an average depth of fill material in this area of the site of 0.6 m).
- An ACM pipe, identified to be approximately 30 m in length and recognised to be associated with the fire hydrant, was identified in situ in the central east of the site (associated with JBS&G TP35) and a Telstra Pit containing ACM was also seen in the southwest section of the site close to the Ingleburn Military Heritage Precinct. The known location of this infrastructure is presented in **Attachment 4**.
- Similar to the potential for ground surface ACM fragments, there is the potential that further ACM-containing infrastructure will be identified following demolition and site vegetation clearance works at the site. As such, in addition to allowances for removal of the ACM infrastructure noted above, a contingency for removal of additional infrastructure should also be planned.
- All other analytes were well below assessment criteria.

8.1 Auditor's Opinion

The soil analytical results are consistent with the site history and field observations. The summary provided in the Lot 5 RAP is consistent with the information reviewed. Remediation is proposed for asbestos. This is considered reasonable based on the information reviewed. The sampling density for asbestos is relatively low and there is potential for ACM to be more widespread and common than demonstrated by the results (at the surface and at depth in fill). This uncertainty is to be managed by the unexpected finds procedure.

9. EVALUATION OF GROUNDWATER RESULTS

Groundwater results for the Due Diligence Review and the Lot 5 DSI have been assessed against the environmental quality criteria and summarised in **Tables 9.1 and 9.2**. The summaries includes data from duplicate samples.

The locations of groundwater wells are shown on **Attachment 3**.

Criteria Analyte (Units)	ADWG (2011) Health x 10 (Recreati onal) - Updated March- 2021	ANZG (2018) Freshwat er 95% toxicant DGVs	NEPM 2013 Table 1A(4) Res HSL A/B GW for Vapour Intrusion, Clay 4-8m	MWF3 9 June 2021	MWF3 28 October 2022	MW01 28 October 2022	MW02 28 October 2022	MW03 28 October 2022
Benzene (mg/L)	0.01	0.95	5	NA	<0.001	<0.001	< 0.001	<0.001
Toluene (mg/L)	8	0.18	NL	NA	<0.001	<0.001	<0.001	<0.001
Ethylbenzene (mg/L)	3	0.08	NL	NA	<0.001	<0.001	<0.001	<0.001
Total Xylenes (mg/L)	6	0.075	NL	NA	<0.003	<0.003	<0.003	<0.003
F1 (TRH C ₆ -C ₁₀ minus BTEX) (mg/L)	-	-	NL	NA	<0.02	0.04	<0.02	0.02
F2 (TRH >C ₁₀ -C ₁₆ minus naphthalene) (mg/L)	-	-	NL	NA	<0.05	<0.05	<0.05	<0.05
TRH > C_{16} - C_{34} (mg/L)	-	-	<lor< td=""><td>NA</td><td><0.1</td><td><0.1</td><td><0.1</td><td><0.1</td></lor<>	NA	<0.1	<0.1	<0.1	<0.1
TRH >C ₃₄ -C ₄₀ (mg/L)	-	-	<lor< td=""><td>NA</td><td><0.1</td><td><0.1</td><td><0.1</td><td><0.1</td></lor<>	NA	<0.1	<0.1	<0.1	<0.1
Naphthalene (mg/L)	-	0.016	NL	NA	<0.001	<0.001	< 0.001	<0.001
Total PAHs (mg/L)	-	-	-	NA	<0.001	<0.001	<0.001	<0.001
Arsenic (mg/L)	0.1	0.013	-	NA	<0.001	<0.001	0.002	<0.001
Cadmium (mg/L)	0.02	0.0002	-	NA	<0.0002	<0.0002	0.0002	<0.0002
Chromium (mg/L)	0.5	0.001	-	NA	<0.001	<0.001	<0.001	<0.001
Copper (mg/L)	20	0.0014	-	NA	0.002	<0.001	<0.001	<0.001
Lead (mg/L)	0.1	0.0034	-	NA	<0.001	<0.001	<0.001	<0.001
Mercury (mg/L)	0.01	0.0006	-	NA	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (mg/L)	0.2	0.011	-	NA	<0.001	0.001	0.007	0.002
Zinc (mg/L)	-	0.008	-	NA	<0.005	0.007	<0.005	0.009

Table 9.1: Groundwater Analytical Results – Metals and Organics

NA Not assessed No criteria available/used

NL Non-limiting

<LOR Less than the limit of reporting

BOLD exceeds criteria

Table 9.2: Groundwater Analytical Results - PFAS

Criteria	ADWG (2011) Health x 10 (Recreational) - Updated March- 2021	HEPA 2020 (fresh- water, 95%)	MWF3 9 June 2021	MWF3 28 October 2022	MW01 28 October 2022	MW02 28 October 2022	MW03 28 October 2022
Analyte (µg/L)							
PFOA	5.6	220	< 0.01	<0.001	<0.001	<0.001	<0.001
PFOS	0.7	0.13	<0.01	0.002	0.003	0.002	0.002
Sum of PFHxS and PFOS	0.7	-	<0.01	0.013	0.01	0.002	0.002

No criteria available/used

The Lot 5 DSI states concentrations of all COPCs in all groundwater samples were reported to be less than the adopted human health-based site assessment criteria and as such, there are considered to be no unacceptable risks from groundwater to human health.

Individual concentrations of metals in groundwater across the site were generally less than the adopted ecological investigation levels with the noted exception of copper at 0.002 mg/L in MWF3 and zinc at

0.009 mg/L at MW03. It is noted that maximum concentrations of each metal were within an order of magnitude of the adopted ecological criteria. JBS&G considered the metals results as a whole consistent with groundwater resident in the shale geology, rather than indicative of anthropogenic impacts, and as such there are no unacceptable ecological risks associated with groundwater conditions underlying the site.

Assessment of PFAS compounds in groundwater identified concentrations of both PFOS and PFHxS group compounds above the laboratory LORs at each of the monitoring locations sampled (MWF3, MW01 to MW03). Reported concentrations of all PFAS, including sum of PFHxS and PFOS, and PFOA, were significantly below the adopted human health criteria. Concentrations of PFOS were reported in the range of 0.002 μ g/L to 0.003 μ g/L, below the 95% species protection ecological based criterion (0.13 μ g/L), adopted given the distance to the nearest sensitive receptor.

The results are noted to be significantly below the 95% ecological criterion and are consistent in all monitoring wells. JBS&G consider that these results are representative of disparate sources potentially associated with historical use of the investigation area, rather than indicative of a potential point source contamination location(s). On this basis, with consideration to the nature of the groundwater shale environment and the distribution of concentrations, JBS&G consider that the conditions are not indicative of an unacceptable risk to ecological receptors and as such, no further investigation of PFAS in groundwater is considered necessary.

9.1 Auditor's Opinion

The groundwater analytical results are consistent with the site history and field observations. The discussion provided in the Lot 5 DSI is consistent with the information reviewed. The risks to human health and the environment are low and acceptable. No further assessment or management of groundwater is required.

10. EVALUATION OF CONCEPTUAL SITE MODEL

The Lot 5 RAP states completion of the site assessment activities have identified site contamination to be limited to asbestos impacts (as bonded ACM), assumed to be associated with historical site development, demolition and/or imported fill material at the site.

The primary human receptors of concern are future residential users of the site and users of residential and public domain areas within the site. Other potential receptors will include construction workers during the site redevelopment, and potential future sub-surface intrusive/maintenance workers.

The primary ecological receptors of concern represent current site flora and fauna. Asbestos does not present a concern for ecological receptors.

Based on the asbestos contaminants identified as discussed above, the exposure pathways for the site comprise the potential for inhalation of airborne asbestos fibres and/or impacted dust particles during site activities associated with inground disturbance.

Based on the environmental assessment works undertaken, JBS&G consider there is sufficient data to inform the Lot 5 RAP. Some minor issues requiring further assessment/validation during site preparation/remediation works have been identified as discussed in the following paragraphs.

The extensive nature of current site vegetation has limited the opportunity to identify the extent of ACM fragments on the ground surface. As such, during vegetation clearance activities, further inspection of the site ground surface will be required to assess the extent of fragment impacts across the site.

Asbestos containing infrastructure has been identified in the form of an asbestos pipe associated with the fire hydrant network and one in ground Telstra pit in the southwest corner of the site. The potential remains for further inground asbestos containing infrastructure to be identified during demolition of remnant road networks, vegetation clearance and potentially initial earthworks at the site, which will require implementation of appropriate controls to remove the infrastructure and assessment/validation of the surrounding soil to demonstrate the absence of associated soil impacts.

In addition to the above, should unexpected/additional environmental impact be suspected/identified during remedial activities and/or subsequent earthworks, a range of remediation options are available for the site with a contingency plan and unexpected finds procedure outlined in the Lot 5 RAP.

10.1 Auditor's Opinion

The conceptual site model (CSM) of contamination and data gaps identified by JBS&G provide a reasonable representation of the contamination at the site. The CSM developed is considered an adequate basis for assessing remedial requirements and contingency and unexpected finds procedures.

11. EVALUATION OF PROPOSED REMEDIATION

Based on the investigations completed by JBS&G, remediation is required to address identified and potentially unexpected asbestos impacts in fill or redundant services. In summary, the RAP proposes:

- Emu picking areas where ACM is known to be present at the surface (FRAG01 (TP30), FRAG02, FRAG06 (TP13) and FRAG08 (TP40), TP24/TP36 and TP37) and in any additional such areas identified during vegetation removal. This will include raking to a depth of 100 mm and removing visible fragments. More rigorous hand excavation (e.g., shovels) will be used if required.
- Excavation of ACM impacted fill at TP25, TP42 and DG09.
- Removal of ACM containing infrastructure (fire hydrant system and a Telstra pit).
- Off-site disposal of fragments and excavated soil.
- Excavations will be reinstated using validated material, existing non-impacted site materials and/or validated imported fill material where required.
- Implementation of an unexpected finds procedure during remediation and subsequently during bulk earthworks.

I have assessed the Lot 5 RAP by comparison with the checklist included in NSW EPA (2020) *Contaminated Land Guidelines, Consultants Reporting on Contaminated Land*. The RAP was found to address the required information, as detailed in **Table 11.1**.

Table 11.1: Evaluation of Remedial Action Plan

Remedial Action Plan	Auditor Comments	
Remedial Goal The Lot 5 RAP states "The objective of this RAP is to document the procedures and standards to be followed in order to remove the potential contamination risks for the proposed development such that the site can be made suitable for the intended residential land use, consistent with the requirements of 'Chapter 4 Remediation of Land' in SEPP R&H 2021."	Adequate	
Remedial Objective/DQOs "The Problem" is stated as the presence of contaminated site media and/or material of aesthetic concern has been identified at the site. The contaminated media require to be remediated and the aesthetic concerns addressed to make the site suitable for the proposed development. Environmental data is required to demonstrate that remediation works implemented at the site have achieved the objectives of the remediation. Specifically, sufficient data is required to be obtained to verify that remediation works were undertaken in accordance with the proposed methodology, and that potential risks to future receptors under the proposed redevelopment scenario have been mitigated to low and acceptable levels. "The Decisions" are as follows:	Adequate	

Remedial Action Plan	Auditor Comments
1. Are there any unacceptable risks to future on-site receptors from any residual contamination following the implementation of the proposed remediation/civil	
 works at the site? Are there any aesthetic issues remaining following remediation works? Have all materials imported to the site been demonstrated as environmentally suitable for their proposed use? 	
 4. Is ongoing management required for any residual contamination related impact at the site? 5 Is the site suitable for the proposed use? 	S
 B the once statistic for the proposed user. Have waste materials been classified and disposed of from the site in accordance with the RAP and relevant regulatory guidelines? Have the works been completed in accordance with the RAP, or where variation to the works were required, have these met the objectives of the RAP, with 	s
respect to site validation?8. Is all validation data considered reliable?9. Is the site suitable for the proposed use?	
Remedial Options	Adequate
The preferred hierarchy of options for site clean-up and/or management provided in NEPM (2013) was considered, as follows:	
 Option 1: Onsite treatment of the soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level. Option 2: Offsite treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site. Option 3: Removal of contaminated soil to an approved site or facility, followed where necessary by replacement with clean fill. Option 4: Consolidation and isolation of the soil on-site by containment within a properly designed barrier. 	
Selected Preferred Option and Rationale	Adequate
Bonded ACM fragments on ground surface are preferred to be remediated via emu picking with the surface soils validated as suitable for use either in-situ or alternatively reused elsewhere on site as part of the bulk earthworks program. The collected ACM will be the subject of off-site disposal to a NSW EPA licensed facility. Should the surface soil material be considered unsuitable to be retained on-site (for reasons other than contamination), consideration of off-site disposal is appropriate.	
The preferred remedial strategy for ACM impacted non-surface fill material identified at the site is:	1
 Excavation of ACM impacted soils present to depths greater than 100 mm below ground level and subsequent offsite disposal to landfill/licensed waste facility. The current estimated remedial extents are shown on Attachment 4. Validation of the walls and floors of the resulting excavations. Reshaping using on-site soils or alternatively, if required, placement of imported (and validated) material to reinstate these excavations. 	v d
Soils impacted with ACM are known to be present in a number of locations across the site that do not require remediation from a health screening criteria contamination perspective. However, given it will be required to ensure the surface 100 mm of soils in the final finished development will be free of visible asbestos fror an aesthetic viewpoint and the asbestos impacts will require management to address worker health and safety (WHS) obligations, inclusion of implementation of exposure controls during and following ground disturbance activities is necessary. As such, it is anticipated that surface soils will be validated as free of visible asbestos during the emu-picking program as the site is cleared. Following the completion of the remediation phase of works, subdivision construction works including bulk excavation will require movement of material to achieve site development levels.	n s e
In addition to addressing ACM impacted/contaminated soil, ACM containing infrastructure, including the fire hydrant pipe work and Telstra pit(s), as potential sources of ACM impact, will require removal.	
The unexpected finds procedure is to apply after completion of the remediation works, such that should small scale issues be identified during subdivision works, appropriate processes will be available to contractors to resolve any potential risks from asbestos or other contaminants of concern	

Remedial Action Plan	Auditor Comments
Description of Extent and Remediation to be Undertaken	Adequate
The Lot 5 RAP identifies the following:	
TP25: the identified ACM impacted soils are anticipated to be limited to the subsurface fill material in the vicinity of this sampling locations. The lateral extent is estimated to be approximately 1,150 m ² based on the assumption that the ACM contamination extends to the depth of fill and the lateral extent estimated to the locations of the surrounding sample location (which will be verified during the validation remediation works). The preliminary estimated volume of ACM contaminated soils based on observations at the previous sampling location is approximately 460 m ³ .	
TP42: the identified ACM impacted soils are anticipated to be limited to the depth of fill material. The identified extent of ACM contaminated soil is limited to surficial/shallow soils (0 to 0.2 mbgl) surrounding TP42. The lateral extent is estimated to be approximately 100 m ² based on the assumption that ACM contamination is limited to surficial soil in the garden bed (which will be verified during validation of the remedial works). The preliminary estimated volume of ACM contaminated soil, based on observations at the sampling location is approximately 40 m ³ , accounting for additional material excavation anticipated during removal due to the shallow depth of impacted soils.	
DG09: the identified ACM impacted soils are limited to the fill materials, comprising approximately 0 to 0.7 mbgl surrounding DG09. The lateral extent has been delineated to the east, west and south, with an assumption of approximate distance to the north. Estimation for the lateral delineation has been gained from the location of previous sampling location in the north. Therefore, the lateral extent is estimated to be 315 m ² based on the assumption that the ACM contamination extends to the depth of fill (which will be verified during the validation remediation works). The preliminary estimated volume of ACM contaminated soils based on observations at the previous sampling location is approximately 190 m ³ .	
Existing inground infrastructure: remnant pipe, estimated to consist of a length of approximately 30 m, recognised to be associated with the fire hydrant system and a Telstra pit have been identified at the site. The extent of these materials requiring removal will be verified during the validation remediation works.	
Bonded ACM observed on the ground surface has been identified during site inspection/assessment activities at scattered locations across the site, including at FRAG01 (TP30), FRAG02, FRAG06 (TP13) and FRAG08 (TP40), TP24/TP36 and TP37 as shown in Attachment 4 . The known areas of bonded ACM fragment impacts will be identified by the Environmental Consultant for the completion of asbestos removal from the top 100 mm of soils with rakes and removing all visible ACM fragments. Inspection of material and collection of ACM fragments will be undertaken on a grid basis and at least two passes across the site made with a 90° direction change between each pass.	
Given the extent of vegetation cover, additional areas of surface ACM fragments are expected to occur in addition to the above noted areas. Limited anthropogenic material, including bricks, were also observed on the surface and within the fill, which indicates the potential for associated further asbestos impacts as a result of demolition activities.	
As such, it should be presumed that the final extent of bonded ACM impacts on the ground surface will be confirmed upon completion of the site clearance activities, whereby inspection of the ground surface following removal of all existing infrastructure and vegetation will allow for the identification of the extent of ACM on the ground surface.	
During vegetation removal, if additional asbestos is identified, this will be managed as per the unexpected finds procedure. Following vegetation removal, the areas will be inspected by the Environmental Consultant to further identify any areas that will require further investigation and or remediation via emu picking.	
During the detailed ground surface inspection, any occurrences of ACM that are identified to be present in quantities or conditions that are unable to be removed by hand (emu picking) shall be excavated via more rigorous hand excavation (e.g. shovels) where possible.	
Proposed Validation Criteria	Adequate
The site validation criteria are summarised as follows:	
Asbestos in soil (WHS Regulation): No visible asbestos in soil; no asbestos present above 'trace' levels (0.01 $\%$ w/w) and NEPM (2013) HSL A.	

Remedial Action Plan	Auditor Comments
Emu picking of ACM from soil: Two passes are completed with no asbestos identified.	
Unexpected finds will be assessed as per the assessment criteria for the investigations (Section 7 of this IAA). For the chemical analysis data set, the following statistical criteria shall be adopted with respect to the health-based criteria:	
 The upper 95% confidence limit (UCL) on the average concentration for each analyte (calculated for samples collected from consistent soil horizons, stratigraphy, or material types) must be below the adopted criterion; no single analyte concentration shall exceed 250% of the adopted criterion; and the standard deviation of the results must be less than 50% of the criterion. Where the soil validation criteria are exceeded, further remediation and validation, or evaluation of risk, will be required. 	
In addition to the numerical criteria, consideration shall be given to aesthetic characteristics of the material, including the presence of soils that are odorous or discoloured because of contamination, or otherwise contain significant quantities of non-soil inclusions (i.e. construction and demolition waste and similar).	
In accordance with current EPA policy, only material that does not represent an environmental or health risk at the receiving site may be considered for resource recovery. Imported materials will only be accepted to the site if they meet the restrictions placed on these materials and meet the definition of virgin excavated natural material (VENM) as defined in the <i>Protection of the Environment Operations Act 1997</i> Schedule 1; excavated natural material (ENM) as defined in EPA (2014) <i>Waste Classification Guidelines</i> ; or resource recovery materials as per an EPA exemption.	
Proposed Validation Testing	Adequate. Although not
The validation testing schedule is presented in Table 11.2 extracted from the Lot 5 RAP. Validation of asbestos impacts, including excavation surfaces and stockpile footprints will be by visual inspection for the presence of asbestos or remaining fill material, if relevant, on a 10 x 10 m transect by a competent person or Licensed Asbestos Assessor (LAA), supplemented by analysis of 500 mL samples as per Table 11.2	described in the RAP, it is understood that 10 L samples will also be assessed in the field for validation of ACM removal.
In addition, all material imported onto the site are required to be accompanied by appropriate documentation that has been verified by the appointed site contamination (environmental) consultant. All materials will be required to be inspected upon import to the site by the appointed site contamination (environmental) consultant to confirm consistency with provided documents and/or consistency with observations made at the source site.	
Sampling of materials as per an EPA exemption (recycled products) is required to be undertaken by the facility in accordance with the relevant exemption. In addition, where materials are proposed for beneficial reuse under a NSW EPA exemption (i.e. imported to the site), fill material will need to be further assessed by an Environmental Consultant for land use suitability.	
Unexpected Finds	Adequate
The Lot 5 RAP states the possibility exists for hazards that have not been identified to date to be present within fill materials or underlying pavements/buildings at the site. The nature of hazards which may be present and which may be discovered at the site are generally detectable through visual or olfactory means, for example:	
 The presence of significant aggregates of friable asbestos materials (visible) as opposed to ACM fragments on the ground surface and/or incorporated within fill material (which are expected) Excessive quantities of sulfur and/or sulfidic odours within soils Excessive quantities of construction/demolition waste (visible) Hydrocarbon impacted materials (visible/odorous) Drums, waste pits, former pipework or USTs (visible) Oily ash and/or oily slag contaminated soils/fill materials (visible/odorous) Tarry like impacted soil/fill material (visible/odorous) 	
In the event of an unexpected find, work is to cease and the site foreman contacted. The area is to be secured and the advice of the environmental consultant is to be obtained to determine the appropriate actions. The environmental consultant is to submit assessment/validation/clearance to site foreman for distribution to Client and	

appropriate regulatory authorities.

Remedial Action Plan	Auditor Comments
Contingency Plan if Selected Remedial Strategy Fails	Adequate
Given the available site history information, consideration has been given to the potential for additional small-scale issues that may arise during works (from a contamination viewpoint). Should further impacted material (i.e., not previously identified in historical investigations) be identified as part of an unexpected find during construction works, the remedial options will be reviewed. Notwithstanding, due to the site history and relatively shallow depth of fill it is anticipated that any impacts will be associated with either buried ACM impacted material or other material of aesthetic concern, which are expected based on historical information (previous Audits) to be relatively isolated and could be appropriately managed through either on site treatment/management or controlled excavation and off-site disposal as discussed for various material types above.	
Interim Site Management Plan (before remediation)	Adequate
The Lot 5 RAP recommends an asbestos management plan (AMP) be prepared to outline the required procedure for the handling of ACM and asbestos impacted soils or materials prior to and during the remediation works to be undertaken at the site. This is to include measures required to protect the health and safety of site workers who may encounter ACM or asbestos impacted soils or materials whilst completing the planned works.	
Site Management Plan (SMP) (operation phase) including stormwater, soil, noise, dust, odour and OH&S	Adequate
Section 9 of the Lot 5 RAP presents a SMP which addresses:	
 Hours of operation Erosion and Sediment Control Stockpile Management Site Access Excavation Dewatering Noise Vibration Odour / Volatile Emissions Control Dust Control Air Quality Transport of Material Offsite Hazardous Materials Disposal of Contaminated Soil Site Signage and Contact Numbers Site Security Community Consultation Health and Safety Management A work health and safety plan (WHSP) is also proposed to be prepared to document the procedures to be followed to manage the risks posed to the health of the remediation workforce. 	
 Remediation Schedule and Hours of Operation The Lot 5 RAP states all remediation works shall be conducted within the following hours or those specified within the project consent: Monday to Friday: 7 am to 5 pm. 	Adequate
Saturdays: 8 am to 1 pm.Sunday and public holidays: No work permitted.	
Contingency Plans to Respond to Site Incidents In the event that any materials storage containment controls are breached and stockpiled materials classified as asbestos contaminated soil or otherwise have escaped (or have the potential to escape), then the management controls shall be rectified and investigations undertaken to review the adequacy of the controls and any improvements implemented. The Lot 5 RAP states the SMP shall include a documented process for identifying and responding to such incidents. The SMP outlined in Section 9 of the Lot 5 RAP states that in the event of an environmental containment failure, environmental incident, or significant emissions complaints during the remedial works periods, a formal review of the incident will be undertaken by the Site Manager with specialist assistance as appropriate (construction, occupational hygienist, site remediation consultant, etc.).	Adequate

The review will be tasked with identifying the cause of the incident and providing recommendations on alternative procedures or systems to be implemented at the

Remedial Action Plan	Auditor Comments
site and/or within the construction environment management plan (CEMP) to prevent/minimise the likelihood of the incident reoccurring. Dependent upon the review outcome, amendment to the remedial works procedures via preparation of a remedial works plan (RWP) or documentation within the CEMP may be appropriate, in which instance the documents should be reviewed and endorsed by the site auditor prior to implementation.	
Licence and Approvals	Adequate
The remediation works are considered to be Category 2 Remediation Works as per the meaning provided in SEPP R&H 2021 and will not require specific development consent under the <i>Environmental Planning and Assessment Act 1997</i> . It is understood that remediation works are planned to occur ancillary to redevelopment of the site as part of the DA.	
Protection of the Environment Operations (Waste) Regulation 2014 applies for waste including asbestos waste. An appropriately licensed landfill should be selected and the material tracked from the site to the landfill.	
Excavation, on-site remediation and removal of asbestos impacted soils are required to be conducted by a Class B (Bonded) Asbestos Removal licensed contractor. Prior to site establishment, it is anticipated the Remediation Contractor will prepare all required documentation in accordance with its asbestos removal licence and the proposed non-friable asbestos removal works, including, but not limited to:	
 A SafeWork NSW permit to remove non-friable asbestos application; An Asbestos Removal Control Plan (ARCP); and Safe Work Method Statements (SWMS). 	
Contacts/Community Relations	Adequate
Landcom will implement procedures as part of the broader site redevelopment process to inform the community and relevant stakeholders of the intention to complete works at the site. Specifically, owners and/or occupants of adjacent premises and across the road from the site will be notified at least 7 days prior to the commencement of preparation for the remediation works. As a minimum, the notification shall include the details of an appropriate contact person.	
Site workers within the broader site will be advised of the intention to complete works at least 7 days prior to the commencement of site remediation activities with regular updates provided via toolbox talk procedures as part of the Principal Contractor obligations.	
Sign/s shall be displayed adjacent to the site access point/s throughout the duration of the works with the contact details of the Contractor and project manager as provided and maintained by the Contractor.	
Staged Progress Reporting	Adequate
At the completion of remediation works, a validation report will be prepared by the Environmental Consultant written in general accordance with NSW EPA (2020) <i>Contaminated Land Guidelines, Consultants Reporting on Contaminated Land</i> , documenting the works as completed.	
Staged progress reporting is not anticipated for the site. However, a separate RAP is anticipated for the open space areas (most of Lot 3) and therefore staged validation reporting for the development site may occur.	
Long Term Environmental Management Plan (EMP)	Adequate
A long-term EMP is not anticipated based on the remediation proposed.	
Waste Management All wastes requiring off-site disposal must be classified in accordance with Waste Classification Guidelines (NSW EPA 2014). The Remedial Contractor is responsible for the lawful disposal of the classified waste to a licensed waste disposal facility lawfully able to accept the waste. Disposal dockets for each individual off-site waste disposal load must be provided to the Principal and to the Environmental Consultant by the Remedial Contractor to demonstrate appropriate offsite disposal of waste	Adequate
occurred for site validation purposes.	

Table 11.2: Validation Analytical Schedule

	RAP Sampling Frequency			
ltem	Excavation Base	Excavation Walls	Materials	Analytes
Excavations formed by removal of ACM impacted soils / ACM infrastructure	1 / 100 m²	1/ 10 lineal metres per 1 m depth interval with minimum of one per wall	-	Asbestos WA (500 mL)
Asbestos stockpile footprint validation	1/100 m ²	N/A	-	Asbestos WA (500 mL)
Excavations formed by removal of unexpected finds	1/25 m²	1 / 5 lineal metres per 1 m depth interval with minimum of 1 per wall	-	To be determined by the environmental consultant based on the UF assessment
Stockpile footprint validation	1/100 m ²	N/A	-	To be determined by the environmental consultant
Waste classification of materials requiring offsite disposal	N/A	N/A	1/250 m ³ with a minimum of 3 samples Where material is to be evaluated as free of asbestos - 1/75m ³ with minimum of 3 samples	Heavy Metals TRH/BTEX OCPs/PCBs PAHs Asbestos
Waste classification of unexpected finds	N/A	N/A	1 per 25m ³ up to 200 m ³ , minimum of 3. Reduced sampling density for volumes >200 m ³ based on minimum number to use statistical analysis. Historical soil data to be considered where appropriate.	To be determined by the environmental consultant
Imported VENM, if required	N/A	N/A	Minimum of 3 samples per source site. Maximum 10 samples.	Heavy metals Total Recoverable Hydrocarbons (TRHs) Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) Polycyclic Aromatic Hydrocarbons (PAHs) Organochlorine Pesticides (OCPs) Polychlorinated biphenyls (PCBs) Asbestos (500mL)
Imported Recycled/Recovered Products	N/A	N/A	Minimum of 3 samples per source site.	Heavy metals TRH/BTEX PAHs OCPs/PCBs Asbestos (500mL)
All imported materials	N/A	N/A	Visual inspection upon arrival at site and regular visual inspections during importation.	Visual inspection only, free of anthropogenic materials or odour/staining

11.1 Auditor's Opinion

Refer Section 12.

12. CONCLUSIONS AND RECOMMENDATIONS

The proposed remediation works are technically feasible; environmentally justifiable; and consistent with relevant laws, policies and guidelines endorsed by NSW EPA. If adequately implemented, the Lot 5 RAP including the unexpected find procedure should be adequate to manage risks posed by contamination (asbestos containing materials and unexpected finds) with respect to human health and the environment, rendering the site suitable for the proposed use. Successful validation will be required to confirm this.

The sampling density for asbestos is relatively low and there is potential for ACM to be more widespread and common than demonstrated by the results (at the surface and at depth in fill). This uncertainty is to be managed by the unexpected finds procedure.

The Lot 5 RAP recommends an AMP be prepared to outline the required procedure for the handling of ACM and asbestos impacted soils or materials prior to and during the remediation works to be undertaken at the site and a WHSP to document the procedures to be followed to manage the risks posed to the health of the remediation workforce.

It is recommended that the following requirements be included as conditions of consent for the development:

- 1. Preparation and implementation of an AMP and WHSP
- 2. Implementation of the RAP
- 3. Preparation of a Validation Report following completion of remediation
- 4. Preparation of a Section A Site Audit by a NSW EPA accredited Contaminated Sites Auditor following completion of remediation.

13. LIMITATIONS

This interim audit advice was conducted on behalf of Landcom for the purpose of assessing the suitability and appropriateness of the Lot 5 RAP. This summary report may not be suitable for other uses.

I have relied on the documents referenced in **Section 1** in preparing the "Auditor's Opinions". The consultants included limitations in their reports. This interim audit advice must also be subject to those limitations. I have prepared this document in good faith but is unable to provide certification outside of areas over which I had some control or is reasonably able to check. If I am unable to rely on any of those documents, the conclusions of this interim audit advice could change.

It is not possible to present all data which could be of interest to all readers of this interim audit advice. Readers are referred to the referenced reports for further data. Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

* * *

Consistent with the NSW EPA requirement for staged 'signoff' of sites that are the subject of progressive assessment, remediation and validation, I advise that:

- This advice letter does not constitute a Site Audit Report or Site Audit Statement.
- At the completion of the remediation and validation I will provide a Site Audit Statement and supporting documentation.
- This interim advice will be documented in the Site Audit Report.

Yours faithfully Ramboll Australia Pty Ltd

Rowena Salmon EPA Accredited Site Auditor 1002

D +61 2 9954 8100 M +61 412 834 360 rsalmon@ramboll.com

Attachments: 1 Precinct 3 Development Area Locality Plan

2 Boundaries and Proposed Development Layout

3 Groundwater Contours and Well Locations

4 Consolidated Sample Plan and Remediation Areas

Attachment 1 - Precinct 3 Development Area Locality Plan



File Name: \\JBSG-NSW-FS01\Company Data\Projects\Landcom\63325 Ed Park Environmental and Geotechnical\GIS\Maps\R03 Rev A\63325_01_SiteLocation.mxd Reference: Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

5HUW a Ybh&! 6ci bXUf]Yg UbX DfcdcgYX 8Yj Y cda Ybh@Unci h(the site is the pink hatched "Residential Area")



Attachment 3 - Groundwater Contours and Well Locations



File Name: \\JBSG-NSW-FS01\Company Data\Projects\Landcom\63325 Ed Park Environmental and Geotechnical\GIS\Maps\R03 Rev A\63325_05_GroundwaterContourPlan.mxd Reference: www.nearmap.com - 20220604

Attachment 4 - Consolidated Sample Plan and Remediation Areas



File Name: \\JBSG-NSW-FS01\Company Data\Projects\Landcom\63325 Ed Park Environmental and Geotechnical\GIS\Maps\R06 Rev A\63325_05_ExtentOfAsbestosImpactedMaterial.mxd Reference: www.nearmap.com - 20220604