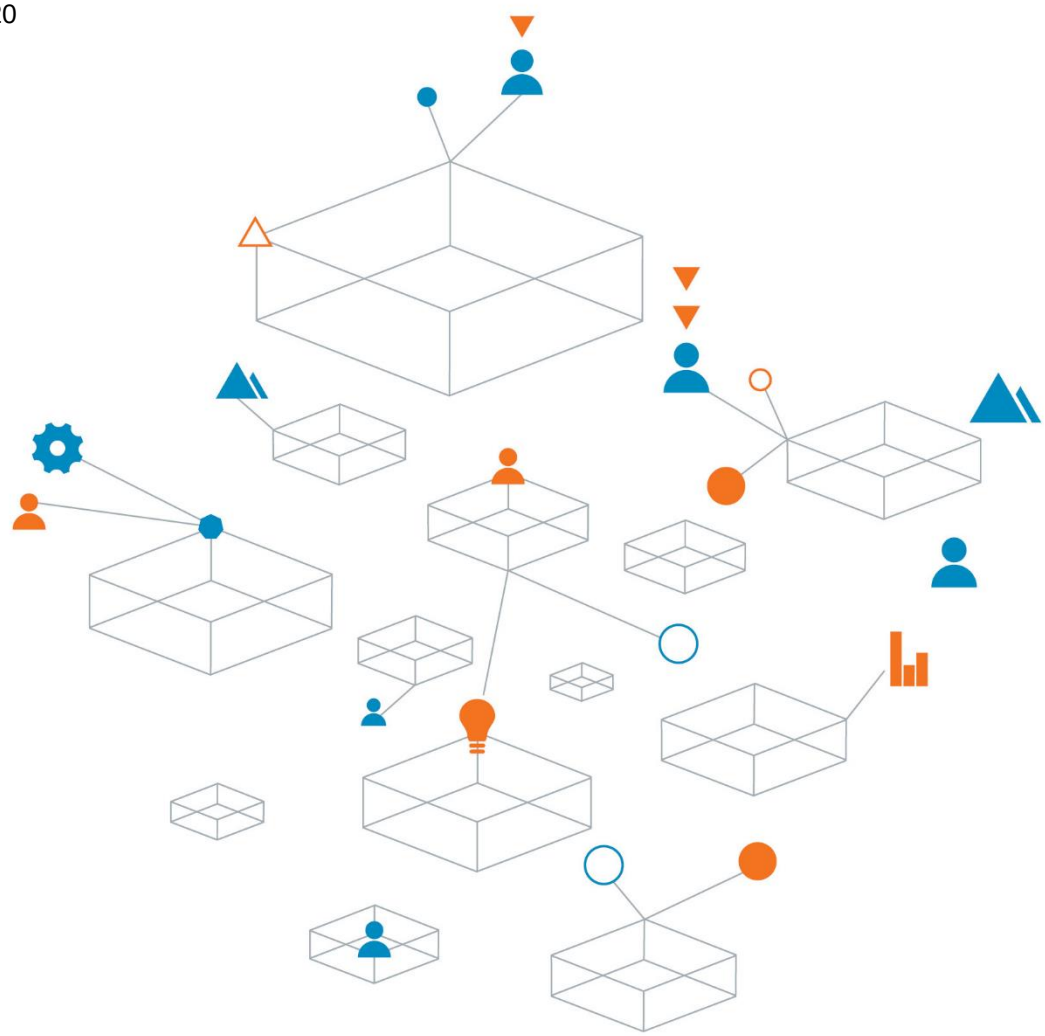
Land and Housing Corporation, Department of Planning, Industry and Environment
Remedial Action Plan
20 and 22 Mindarie Street, and 30 Pinaroo Place, Lane Cove North NSW

3 July 2020



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Remedial Action Plan

Prepared for
Land and Housing Corporation, Department of Planning, Industry and Environment

Prepared by
Coffey Services Australia Pty Ltd
16 Callistemon Close
Warabrook
NSW 2304 Australia
t: +61 2 4016 2300
ABN 55 139 460 521

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20 and 22 Mindarie Street, and 30 Pinaroo Place, Lane Cove North NSW

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Quality information

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1. Introduction

Coffey Services Australia Pty Ltd (Coffey) was engaged by NSW Land and Housing Corporation (LAHC) to prepare a Remedial Action Plan (RAP) to support the re-development of 20 and 22 Mindarie Street and 30 Pinaroo Place, Lane Cove North, NSW (the site). LAHC are a government corporation of the NSW Department of Planning, Industry and Environment. The site location is presented in Figure 1 of Appendix B.

LAHC are redeveloping the site for high-density residential purposes as part of the Neighbourhood Program Release 2. Coffey has not been provided drawings that describe the proposed development. As such this RAP has been developed for a generic high density residential land use setting.

LAHC previously engaged Coffey to prepare the following reports:

- Coffey (2017), 2017), Preliminary Contamination Assessment, 20 and 22 Mindarie Street and 30 Pinaroo Place, Lane Cove North, NSW, dated 20 January 2017, report ref. SYDEN198927-R06; and
- Coffey (2019) Detailed Site Investigation Report, 20 and 22 Mindarie Street and 30 Pinaroo Place, Lane Cove North, NSW, dated 13 November 2019, report reference: SYDEN233878-R01.

Findings from the DSI reported Asbestos Containing Material (ACM) in the form of fragments of cement sheeting on the surface beneath the houses at 20 and 22 Mindarie Street. The samples were collected during Pre-Demolition Asbestos and Hazardous Materials Survey investigation and laboratory analysis confirmed the material to contain asbestos (Coffey, 2019). At the time of the DSI, access beneath 30 Pinaroo Place was not available and ACM fragments may also be present within surface soils.

Zinc was also reported to be above the adopted Ecological Investigation Levels (EILs) for Residential/ Public Open Space at borehole location BH04 at surface level (0.0-0.1 metres below ground surface (mbgs)).

Based on the findings of the DSI, ACM was considered to exist within surface soils beneath 20 and 22 Mindarie Street and potentially 30 Pinaroo Place within surface fill material. Zinc contamination was also likely to be limited within surface soils at the rear of 22 Mindarie Street.

Coffey recommended that the site could be made suitable for high density residential uses, provided a Remedial Action Plan (RAP) was developed outlining appropriate remedial strategies to manage asbestos and zinc contamination.

This RAP has been prepared in accordance with the NSW EPA (2020) Consultants Reporting on Contaminated Land: Contaminated Land Guidelines and National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (ASC NEPM 2013).

This report should be read in conjunction with the attached “Important information about your Coffey Environmental Report” presented in Appendix A.

2. Scope and Objective

The scope and objective of the RAP were to:

- Set remediation goals and outline a strategy to manage unacceptable risks associated with asbestos and zinc in surface soil within the site;
- Provide procedures and plans for implementation of the proposed remedial works;
- Outline minimum controls necessary to complete the proposed remedial works in a manner that minimises negative impacts upon worker health and safety (WHS) and the environment; and
- Provide a procedure to manage unexpected contamination finds during construction earthworks.

3. Site Information

3.1. Site Identification

Site identification details are summarised in 3.1. The location of the current site layout at the properties is shown on Figure 1 and 2 of Appendix B respectively.

Table 3.1: Site Identification

Address	20 and 22 Mindarie Street and 30 Pinaroo Place, Lane Cove North NSW.
Lot/ Section/ Plan No.	Lots 81, 82 and 83 in DP 35865
Approximate Site Area (m^2)	1,750
Current Zoning	"R4 – high density residential" pursuant to the Lane Cove Local Environmental Plan 2009.
Current Site Use	Occupied by three residential dwellings.
Adjoining Site Uses	North: Mindarie Street followed by a high-density residential land uses. South: Low density residential. East: Pinaroo Place followed by high density residential land uses. West: Low density residential land uses.

3.2. Site Condition

The key observations that describe site conditions observed by an experienced environmental consultant from Coffey on 8 October 2019 included the following:

- The site were occupied by three vacant residential houses. The land sloped relatively steeply to the south east;
- Each of the three lots were occupied by a residential dwelling. Building materials included brick, wood and tiled roof. Cement fibre sheeting were observed on the eaves of the buildings and in electrical boxes;
- Building conditions were in good condition with some evidence of depredation/weathering;
- The houses were surrounded by grassed lawn with signs of stress noted in places, however this was likely due to lack of maintenance. Areas of brown grass were observed in places around the perimeter of the site, likely associated with weed control;
- ACM fragments were observed on the ground surface beneath the dwellings at 20 and 22 Mindarie Street;
- A small, corrugated iron garden shed was identified at 22 Mindarie Street and was situated on a concrete pad. No chemicals or evidence of staining was identified within this shed;
- A large stockpile of mulch was observed on the driveway at 22 Mindarie Street;
- Driveways consisted of two concreted strips with exposed soil/grass within the middle;
- Pavements generally consisted of concrete driveways and paths and were in good condition, with no significant staining observed;
- With the exception of topsoil, no evidence of fill material was identified with current site buildings appearing to be 'cut' into the sloping site;
- There was no evidence of the presence of current or former underground septic or storage tanks on the site (including fill point, dip points, vent pipes or bowser plinth); and
- No evidence of chemical storage or spills of fuel/oil and household chemicals was observed during the site walkover.

3.3. Desktop Review

Table 3.2 presents a summary of information from previous reports (Coffey, 2017; 2019) that describes the environmental setting of the site.

Table 3.2: Summary of Desktop Review

Item	Discussion
Topography	The elevation of the site ranges from 58mAHD (Australian Height Datum) within the north western corner or the site, dropping down to 50mAHD in the south eastern corner.
Geology	The site is underlain by Hawkesbury Sandstone (NSW Dept. of Mineral Resources, 1983; Scale 1:100,000). The Hawkesbury Sandstone is described as medium to course grained sandstone with very minor shale and laminate lenses. A summary of site specific lithology observed during the DSI is as follows: • Fill – A layer of topsoil fill material was encountered across the site and typically comprised heterogeneous mixtures of gravelly / silty sand, brown, fine grained with some organic matter; and • Residual Soil – Weathered sandstone was encountered in each borehole and comprised clayey sand, orange / red / brown, fine to medium grained, some medium plasticity clay.
Salinity and Acid Sulfate Soils	The site was not identified as being a high risk for dryland salinity or potential acid sulfate soils.
Surface Water	Stringybark Creek is the nearest surface water receptor which is located approximately 160m south of the site. Stringybark Creek eventually flows into the Lane Cover River, located about 1km to the west of the Site. Sensitive human receptors include a nearby primary school located approximately 40m north and residential properties surrounding the site.
Groundwater	The depth of groundwater at the site is expected to be at depths (approximately > 10 mbgs) within the weathered sandstone aquifer. Considering the topography of the site, groundwater is likely to flow in a south/south easterly direction towards Stringybark Creek which is a tributary for the Lane Cove River located west of the site.
Historical Aerial Photographs	A review of historical aerial photographs for the site indicated that the site was vacant land up until between the mid-1940s and mid-1950s. The site was then developed into residential land which resembles the current site layout. The site has remained relatively unchanged since.
NSW EPA	The site was not identified as being listed on the NSW EPA contaminated land register or licenced under the POEO register, with previous land uses not identified as being significantly contaminating activities. Multiple nearby properties on the POEO register and historical land uses including service stations and mechanical workshops were identified within the surrounding area. These properties were located nearly 1km from the site and considering the inferred groundwater flow direction (south/south east), the risk for offsite contamination migration was considered to be negligible.
Previous Environmental Assessments	A summary of the previous environmental assessments undertaken at the site is as follows: **Coffey (2017), Preliminary Contamination Assessment, 20 and 22 Mindarie Street and 30 Pinaroo Place, Lane Cove North, NSW, dated 20 January 2017, report ref. SYDEN198927-R06** • Coffey were engaged by LAHC to undertake a PSA which was limited to a desktop and site walkover to identify any areas of environmental concern (AEC) and contaminants of Potential Concern (COPC); • Residential buildings at site were identified to be brick and wood with fibre cement sheeting potentially containing asbestos identified on the eaves of the buildings and potential lead-based paint; • The following potential sources of contamination were identified during the PCA: ▪ Weathering of Hazardous building materials;

Item	Discussion
	▪ Potential for minor oil/fuel leaks from vehicles and storage of small quantities of fuel and oil; and ▪ Historical and current use of pesticides and herbicides. • Based on the findings of the PCA, Coffey recommended a DSI and Hazardous Building Materials Survey be undertaken at the site. **Coffey (2019) Detailed Site Investigation Report, 20 and 22 Mindarie Street and 30 Pinaroo Place, Lane Cove North, NSW, dated 13 November 2019, report reference: SYDEN233878-R01.** • Coffey were engaged by LAHC to undertake a DSI based on recommendations made in the PSA; • On 8 October 2019, a Coffey Environmental Scientist drilled seven boreholes (BH01 to BH07) to a maximum depth of 0.4 mbgs at accessible locations across the site. Three surface samples (SS01 to SS03) were also collected. Borehole and surface sample locations assessed as part of the DSI are presented in Figure 3 of Appendix B; • Samples were collected from surface and at near surface depths (i.e. 0.1 to 0.2 or 0.4 to 0.5 mbgs) and screened for Volatile Organic Compounds (VOC) with a Photoionisation Detector (PID); • Samples were analysed for COPCs including Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyls (PCBs), Herbicides, Organochlorine Pesticides (OCP), Organophosphate Pesticides (OPP), Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) and asbestos; • Based on laboratory results, ASC NEPM 2013 health based investigation and screening levels were not exceeded. Zinc was reported to exceed the ecological investigation levels (EILs) for residential/ public open space land use at borehole location BH04 at a depth of 0.0 to 0.1 mbgs. Analytical results tables are presented in Appendix C; • ACM fragments were observed under 20 and 22 Mindarie Street. The source of the ACM was likely associated with damage and repairs to residential buildings over time. These samples were analysed as part of the Pre-Demolition Asbestos and Hazardous Materials Survey and confirmed to contain chrysotile asbestos; • A preliminary waste classification reported soils assessed to be General Solid Waste (non-putrescible), with soils beneath 20 and 22 Mindarie Street to be managed as Special Waste (Asbestos) in accordance with the NSW EPA (2014) Waste Classification Guidelines; and • A RAP was recommended in order to manage the asbestos contaminated areas of the site as well as an Asbestos Removal Control Plan (ARCP) to be prepared detailing industry accepted removal methodology.

3.4. Statistical Appraisal - Zinc

As discussed above in **Table 3.2**, zinc was reported to exceed the EILs for Residential/ Public Open Space. A statistical appraisal using ProUCL 4.1 and analytical data of zinc collected from fill across the Site was undertaken. A summary of the results from the statistical appraisal is provided in **Table 3.3**

Table 3.3: Summary of Statistical Appraisal

Analyte	EIL (mg/kg)	Max. (mg/kg)	Mean	SD	95%UCL
Zinc	359	410	197	139	299.4

UCL: Upper Confidence Limit of the mean, SD: Standard Deviation

Based on the results of the statistical appraisal, zinc was below the 95% UCL and therefore would be below the EILs. Remedial works with respect to zinc at BH04 was not considered to be required.

The statistical appraisal for zinc is presented in Appendix D.

4. Conceptual Site Model

4.1. General

ACM in soil, if not managed appropriately could pose a potential unacceptable risk to human health during construction or future use of the site. For a health risk to be present, there must be a plausible pollutant linkage between the source and a receptor by means of a transport mechanism (pathway).

4.2. Asbestos and Potential Sources

Based on the information presented in the previous reports, the types of asbestos identified on or in surface soil are known to comprise bonded ACM (identified during the Hazardous Material Survey and DSI) within the building materials as well as fragments beneath 20 and 22 Mindarie Street (and potentially 30 Pinaroo Place).

The ACM observed beneath 20 and 22 Mindarie Street is considered likely to have derived from the damage of building material containing asbestos. ACM impacts in soil can be randomly distributed through the fill material within and surrounding footprints of former structures which contained asbestos.

Based on a review of previous reports and visual observations made during the site visit, Coffey considers that:

- ACM is present at surface level under the footprint of 20 and 22 Mindarie Street; and
- There is the potential for asbestos to also be present under the building footprint of 30 Pinaroo Place.

4.3. Potential Asbestos Pathways and Toxicity

The air inhalation pathway is the relevant route of exposure to asbestos. Depending on the level and duration of exposure, inhalation of asbestos fibres can cause:

- Asbestosis;
- Asbestos-related pleural abnormalities;
- Lung and laryngeal carcinoma; and
- Malignant mesothelioma of the pleura or peritoneum.

The Australian population is invariably exposed to low levels of asbestos in the air we breathe every day, which is referred to as an ambient background concentration. Ambient or background air usually contains between 10 and 200 asbestos fibres in every 1000 litres (or cubic metre) of air (equivalent to 0.01 to 0.20 fibres per litre of air)[1].

[1] *Environmental Health Standing Committee (enHealth), Asbestos: A guide for householders and the general public, Australian Health Protection Principal Committee, Canberra, 2013*

4.4. Potential Receptors and Transport Mechanisms

Potential receptors to bonded asbestos (on and/ or in soil) during redevelopment and future use of the site are considered to include:

- Future users and visitors to the site;
- Construction/intrusive maintenance workers; and
- Users of land surrounding the site.

Exposure to asbestos can occur when ACM or asbestos impacted soil is disturbed, and asbestos fibres are released into the air. Excavation during construction, future ground maintenance events, and heavy rainfall events may expose buried ACM. Release of asbestos fibres from ACM impacted soil may occur as a result of (including but not limited to):

- Weathering;
- Mechanical or manual excavation during construction and future maintenance work; or
- Yard maintenance (e.g. mowing/ whipper snipping).

5. Remedial Strategy

5.1. Remedial Goal

The remedial goal is to mitigate potential unacceptable risks to human health associated with ACM impacted surface fill at the site to make the site suitable for the proposed high-density residential development.

5.2. Extent of Remediation Works

ACM fragments have been encountered on the surface beneath 20 and 22 Mindarie Street. Access beneath 30 Pinaroo Place, was not made available during the DSI, so it is likely that ACM fragments are also present at surface level.

For the purposes of this RAP, it is assumed that ACM is present within surface fill (i.e. 0.0 to 0.1 mbgs) beneath 20 and 22 Mindarie Street and potentially 30 Pinaroo Place.

5.3. Remedial Options Appraisal

To achieve the remedial objectives, there are a number of remedial options considered to be appropriate, each with advantages and disadvantages. Remediation may comprise implementation of one or a combination of the remedial management measures.

The appropriateness of a particular option would vary depending on a large range of factors including:

- Space available onsite during remediation and construction;
- Air quality, noise, and impact on adjacent site users;
- Nature and extent of contamination;
- Geological and hydrogeological conditions;
- Type(s) of contamination, including the impacted media;
- Human health and environmental risks (both during and post redevelopment); and
- Consideration of Council's remedial policy.

The selection of appropriate remedial techniques would also need to consider a range of issues including:

- The proposed development designs;
- Effectiveness of remediation – will the solution meet the remedial objectives;
- Contractor experience with remedial technology;
- Sustainability – waste generation, stakeholder acceptance of the remedial solution etc.;
- Acceptable timeframes;
- Cost effectiveness; and
- Long-term liabilities and ongoing management requirements

A summary of the asbestos remedial options is presented in **Table 5.1**.

Table 5.1: Asbestos Remediation Options

Remedial Methodology	Description	Advantages	Disadvantages	Feasible
On-site mechanical treatment	May include excavation and multi-directional raking of soil, sieving and/or picking of fragments/foreign material.	Low cost, reduces the amount of soil requiring off-site disposal	Can only be used for ACM. Not effective if AF/FA is identified. Lower confidence in achieving remedial objectives. Space required. Not always successful if there are large quantities of ACM, or ACM that is excessively weathered.	No
Hazard Removal (Excavation and Off-site Disposal)	Excavate impacted materials. Transport directly to a licensed landfill facility. Re-instate site with clean validated fill material	Effectively removes the contamination from the site. Does not leave site legacy of contamination that requires management over longer term. Relatively fast method.	Higher CAPEX cost associated with haulage and disposal of soil (where required). relative to isolation and ongoing management Less environmentally sustainable approach relative to other feasible options.	Yes
Isolation and on-going Management	Isolation of asbestos impacted soils may be achieved by placement of a Cover Layer that separates future site users on the surface of the redeveloped site from asbestos impacted fill material below the Cover Layer. The Cover Layer may comprise landscaping, road or pavement construction materials of a specified form and thickness. On-site management may also comprise other physical barriers and associated institutional controls to restrict access to certain areas of the site	Potential to be incorporated into the design plans in some areas of the site and meet remedial objectives. Lower CAPEX costs. Relatively fast method. Reduces the need dispose asbestos waste to landfill	May require notification of contamination on land titles. Restricted development options. Long term management of capping layer would be required.	Yes

5.4. Preferred Remedial Strategy

Based upon a review of appropriate remedial technologies and discussions with LAHC, the preferred remedial strategy for ACM within surface soils at the site is hazard removal via excavation and off-site disposal.

Isolation of ACM impacted soils through the placement of a suitable Cover Layer is a technically feasible option to mitigate health risks from ACM in soil. This remedial method is proposed as a contingency where removal of ACM or FA/AF is ineffective or impracticable. The adoption of this contingent remedial option would require modification to the RAP.

5.5. Description of the Remedial Works

A summary of the proposed remedial works is as follows:

- Demolish existing structures in a controlled manner that restricts building debris containing asbestos entering surface soils;
- Heavy machinery should avoid tracking over the asbestos impacted areas to remove the potential for ACM fragments to be broken down into loose fibres;
- Establish site controls outlined within Section 7.7 to minimise impacts to workers completing the remedial activities, occupants of adjoining land, and environmental receptors;
- Carry out remediation to include a surface excavation to approximately 0.1 mbgs from the footprint 20 and 22 Mindarie Street. Following the demolition of site structures at 30 Pinaroo Place, a walkover to observe the presence of ACM would be required. Surface excavation may also be required at 30 Pinaroo Place if ACM fragments are observed within the building footprint;
- Surface raking of the top 0.1 mbgs following excavation would increase confidence that ACM is limited to surface soils and assess if additional remedial works are required (e.g. excavation and removal of soil);
- Place ACM waste in designated stockpile areas (if required) for waste classification assessment;
- Validate the base and face of remedial excavations against the criteria set out within Section 6.3;
- Removal of asbestos waste via licensed haulier and disposal of waste to landfill licensed to receive asbestos waste; and
- Validate that soils imported for the proposed development are suitable for use within a high-density residential setting.

5.6. Timing of Remedial Works

To optimise and achieve efficiencies in the project, remediation works can be implemented during construction.

5.7. Approvals, Notifications and Licenses

All relevant licences and approvals shall be obtained from the relevant authorities (e.g. SafeWork NSW notification for the removal of asbestos).

5.7.1. Development Consent

Site clearance and remediation works shall be undertaken in accordance with the conditions set out within the Development Consent issued through Lane Cove Council. At this time of preparing this document, the details of development consent were not known.

A review of conditions of consent under SEPP55 would be required however, based on criterion for Category 1 remediation work, Coffey consider the work is likely to be classified as Category 2 remediation work (work not needing consent). Prior to the commencement of any remedial works at the site, written notification of at least thirty (30) days must be given to Lane Cove Council. The notification must include the following:

- Contact details of the person(s) ensuring the notice is given (name, address and phone number);
- Description of the remedial works;
- Demonstrate why the works is considered to be Category 2 remedial works;
- Specify the property description and street address where the remedial works will be carried out;
- A plan of the site and remedial location; and
- Estimated commencement and completion dates.

Should the conditions of consent indicate that the works fall under Category 1 remedial work, then consent to undertake remediation from the NSW EPA would be required as well as adhering to clauses 17 and 18 in SEPP55.

5.7.2. Asbestos Related Licenses

The type of asbestos removal license will be for bonded asbestos removal works. A summary of the licenses required based on the asbestos form identified is as follows:

- A SafeWork NSW Class B Licensed Asbestos Removal Contractor (LARC) is engaged to conduct and/or oversee non-friable/ bonded asbestos related removal works; and
- An occupational hygienist or licenced asbestos assessor (LAA) carries out asbestos-fibre air monitoring and visual clearances.

5.7.3. Regulator Notification

The LARC will be required to lodge the necessary SafeWork NSW notice of intent to remove asbestos form prior to excavation (7 days notification required). An Asbestos Removal Control Plan (ARCP) will be required to be prepared by the LARC and submitted with the notification. The ARCP must include:

- Details of the asbestos which will and may be encountered, including the location, type and condition of the asbestos; and
- Details of how the earthworks will be carried out and how ACM impacted soil will be handled, including the method to be used and the tools, equipment and personal protective equipment to be used.

6. Validation Plan

6.1. Objective

The intent of the validation works is to collect suitable and adequate data to assess whether the remediation goals have been achieved.

6.2. Asbestos Visual Clearance Inspection

A suitably trained occupational hygienist/ LAA shall carry out an asbestos visual clearance inspection following removal of the asbestos impacted soils as identified and reported across the site.

The hygienist/ LAA who carried out the clearance inspection is to issue a clearance certificate before the area requiring clearance is re-occupied. A clearance certificate must not be issued unless the suitably trained occupational hygienist is satisfied that:

- The inspection area, and the area immediately surrounding it, are free from visible asbestos. Surface raking will be required to clear the top 0.1m; and
- Air monitoring results, if undertaken as part of the clearance inspection, shows asbestos below 0.01 fibres/ml.

Each clearance inspection certificate prepared shall include photographs of the area inspected and confirm whether fill/topsoil remained in the area of inspection or whether soil was excavated to natural underlying clay.

6.3. Asbestos Validation Sampling

Sampling of the excavations would be required at a rate of 2 samples/ 25m^2 and 2 per 5 linear metres from the excavation walls. As the excavation will only be within the top 0.1m of fill, validation sampling from the walls will not be completed. In the instance where ACM is encountered beyond the excavation depths (e.g. identified following surface raking) and is subsequently removed to the required depths where no visible ACM is observed, validation sampling from excavation walls would be undertaken.

Based on the asbestos validation sampling rates provided above, a summary of the proposed validation sampling for 20 and 22 Mindarie Street ae outlined in **Table 6.1**. Contingency quantities have been provided for 30 Pinaroo Place as well as validation sample quantities from the excavation walls in the event that ACM is observed within fill beyond an approximate depth of 0.3mbgs.

Table 6.1: Summary of Asbestos Validation Sampling

Location	Approximate Footprint Area (m^2)	No. Validation Samples – Base	Approximate Footprint Boundary (m)	No. Validation Samples – Base
20 Mindarie Street	105	8	40	16**
22 Mindarie Street	115	9	45	18**
30 Pinaroo Place	120	9*	45	18**

**Will only be assessed based on observations within footprint following demolition. **Validation samples will only be collected from the excavation wall if excavation depths extend beyond 0.3mbgs.*

The base of each excavation will be sampled in a grid based manner from locations shown on Figure 3 of Appendix B.

6.3.1. Sampling Methodology

Sampling will be undertaken in accordance with the following methodology:

- Collection, and field screening, of 10 L soil samples (1 surface (0.0 – 0.15 mbgs) using a 7 mm sieve or spreading out of the samples for inspection on a contrasting colour material;
- Collection of bulk samples if suspected bonded (non-friable) ACM fragments (> 7mm) are observed; and
- Collection of 500 mL soil samples (< 7mm): One per 10 L bulk sample.

Samples will be forwarded to a National Association of Testing Authorities (NATA) accredited laboratory for analysis.

6.3.2. Laboratory Analysis

Collected soil samples shall be analysed at a laboratory holding NATA accreditation methods for analysing asbestos. The 500mL soil samples collected from each sampling location shall be analysed for asbestos (w/w%) and any suspected ACM retained in the 7mm x 7mm sieve will also be analysed for asbestos as outlined in **Table 6.2**.

Table 6.2: Proposed Laboratory Testing

Rate of Analysis	Analysis
Base sample: one sample from the surface (0.0 – 0.15m) Where suspected ACM is observed beyond the 0.15m, an additional sample will be collected at 0.35m and 0.5m thereafter if additional material is suspected.	Asbestos (500 mL)[2]

If fragments of suspected ACM are observed in the >7mm fraction during sieving, the suspected ACM shall be collected and analysed for asbestos.

6.3.3. Assessment Criteria

To assess the significance of analytical results reference shall be made to asbestos health screening levels (HSLs) presented in the amended ASC NEPM (2013).

Where Friable Asbestos/ Asbestos Fines (FA/ AF) or ACM is confirmed by laboratory assessment, the analytical results will be compared against the HSLs in a residential exposure setting presented in the ASC NEPM applicable to Residential sites (HSL B).

The adopted HSLs for asbestos contamination in soil are summarised in **Table 6.3**.

Table 6.3: Health Screening Level Acceptance Criteria

Form	HSL (Residential B) HSL (w/w)
Bonded ACM	0.04%
FA and AF	0.001%
All forms of asbestos	No visible forms of asbestos for surface soil

[2] Asbestos shall be analysed in accordance with *Australian Standard (AS) 4964-2004: Method for the Qualitative Identification of Asbestos in Bulk Samples* of which the detection limit is 0.1 g/kg (0.01% w/w). The results for the 500 ml soil samples shall be reported to 0.001% w/w to allow for comparison with the health screening levels.

Coffey note that should low density residential development be selected at the site the HSLs for Bonded ACM would be 0.01% w/w.

6.3.4. Quality Assurance/ Quality Control

Fieldwork shall be undertaken by an experienced occupational hygienist/ LAA/ Environmental Consultant experienced in the identification of asbestos and sampling on contaminated sites, in accordance with sampling procedures based on relevant Australian Standards and the amended ASC NEPM 2013.

Sampling equipment shall be decontaminated after the collection of each sample by washing with phosphate-free detergent (such as Decon 90) and potable water, followed by a final potable water rinse.

Samples shall be stored following collection and transported to the laboratory with ‘chain of custody’ documentation.

6.4. Documentation Review

Following the excavation and removal of ACM impacted fill, LAHC shall provide the validation consultant with copies of the asbestos waste tracking documentation for review.

Asbestos waste dockets shall be checked by the validation consultant for authenticity and completeness. NSW EPA POEO licences shall be obtained for review directly from the NSW EPA website and checked to assess whether asbestos impacted soils and PPE have been disposed of at appropriately licenced facilities.

6.5. Imported Fill Validation

Prior to material being imported to site, it must either be Virgin Excavated Natural Material (VENM), Excavated Natural Material (ENM) or a material compliant with a Resource Recovery Exemption published by the NSW EPA and suitable for use in a residential setting.

The validation consultant shall carry out a visual assessment of the material at the source site to confirm the material is consistent with the VENM, ENM or Resource Recovery Exemption descriptions. If considered necessary, a verification assessment will be completed at a rate of three samples per batch as it is received at the site.

Analytes required for the verification of imported material under a Resource Recover Exemption will vary.

The civil contractor engaged by LAHC will be responsible for tracking fill materials imported to site. Copies of dockets pertaining to imported fill soils will be retained by LAHC to confirm the source, type and quantities of material. These dockets will be reviewed by Coffey and included in a Validation Report.

7. Site Management Plan for Remedial Works

7.1. Contact Information

The contact details provided in Error! Reference source not found. should be displayed in a prominent location at the site (such as the entrance or site office). Should any incidents of concern occur they would be initially reported to the Principal Contractor, who shall prepare an incident report for the Project Manager.

Table 7.1: Contact Details

Role	Company	Responsibility	Contact Details
Landowner	LAHC	Project Manager	(02) 9374 3669
Principal Contractor	To be confirmed	Remedial works	To be confirmed
LARC	To be confirmed	Asbestos removal works	To be confirmed
Validation Consultant	Coffey	Validation Project Manager	(02) 9406 1000
Licensed Asbestos Assessor	Coffey	WHS Project Manager	(02) 9406 1000

7.2. Community Consultation

A community consultation plan shall be developed and distributed by LAHC in general accordance with Schedule B(8) of the amended ASC NEPM. The notice shall outline:

- That asbestos remediation work will be carried out at the site;
- The time and date the work is proposed to commence;
- That works are being conducted to control the risk of site contamination impacting off-site receptors during construction and future use of the site; and
- The contact information and processes required for registering any complaints.

7.3. Site Specific Safety Plan

LAHC will be required to comply with the requirements of the WHS Act 2011 and the WHS Regulation 2011. LAHC shall prepare or update their Site-Specific Safety Plan which should include, but not be limited to:

- A review of the requirements of SafeWork NSW;
- Risk assessments;
- Safe work method statements (SWMS); and
- Site Specific Safety requirements associated with the remediation works detailed in this RAP including excavation and management of asbestos contaminated soil.

7.4. Hours of Work

In line with the Lane Cove LEP, remedial work on the project shall be limited to the following hours: -

- Monday to Saturday - 7.00am to 5.00pm; and
- No work to be carried out on Sunday or Public Holidays.

LAHC, or their nominated Principal Contractor, shall be responsible to instruct and control sub-contractors regarding the hours of work.

7.5. Access

Access to the site during remediation shall be controlled by LAHC or their nominated Principal Contractor and asbestos work areas shall be off limits to all non-essential personnel. The public shall not have access.

7.6. Noise

LAHC, or their nominated Principal Contractor, shall minimise noise emissions are controlled and limited in accordance with federal and local government statutory requirements through:

- Selection of low noise and vibration construction equipment wherever possible;
- Regular servicing of equipment;
- Use of equipment silencers/ mufflers;
- Keeping closed the panels and covers of plant;
- Switching off equipment when not in use;
- Restricting the hours of work as appropriate to the maintenance activities; and
- Regularly monitoring equipment likely to be of concern.

7.7. Minimum Asbestos Control Measures

LAHC and workers at the site must comply with all legislative, regulatory and guidance requirements, including but not limited to, the asbestos control measures outlined in this Section. If the legislation, regulations or guidelines contradict the information presented here the legislation, regulations or guidelines prevail.

7.7.1. Asbestos Awareness Training

Prior to commencement of excavation of ACM impacted soil, in line with the How to Manage and Control Asbestos in the Workplace Code of Practice (SafeWork NSW 2019), all relevant site personnel must have completed asbestos awareness training such that all workers are trained to recognise potential health risks and control measures associated with asbestos. The Class A/ B Supervisor or the Licenced Asbestos Assessor may provide the asbestos awareness training on site prior to commencement of excavation of asbestos impacted soil.

7.7.2. Inductions

Relevant personnel involved in asbestos related works shall be inducted into this RAP. Details of contractors or other personnel who have attended the induction are to be kept on the site in Appendix E of this RAP.

7.7.3. Toolbox Talks

Prior to commencing excavation and handling of asbestos impacted soil or following change in site conditions, all relevant site personnel should participate in a toolbox talk. The toolbox talk must incorporate details and instructions on how to manage asbestos-impacted soil in accordance with this RAP. The toolbox talk can be combined with the Induction if practicable.

7.7.4. Barricades and Signs

Signs and barricades must be placed to clearly demarcate where excavation and handling of asbestos impacted soil are being performed and restrict access to personnel not involved in the works.

Barricades may comprise temporary fencing with wind rated mesh/geofabric. It is recommended that the general public cannot see into the work site due of the perceived risk of exposure, which could be exacerbated when observing workers wearing asbestos related PPE/RPE.

Signs should be in accordance with AS 1319-1994 Safety Signs for the Occupational Environment for size, illumination, location and maintenance. The following graphic is an example of warning sign provided in SafeWork NSW How to Manage and Control Asbestos in the Workplace Code of Practice 2019.

7.7.5. Dust Suppression

Dust suppression techniques shall be carried out to control generation of visible dust during the course of the works. Dust suppression techniques may include one or a combination of the following:

- Fine water spraying/misting directly onto the soil and on the boundaries of the site;
- Use of PVA to stabilise the soil;
- Covering soil within trucks using tarpaulin or fabric cover;
- Covering dump truck/skip bins/stockpiles with high-density polythene (HDPE) sheeting or geotextile fabric;
- Restrict trucks to low speeds when transporting asbestos impacted soils; and
- Ceasing works if visible dust is being generated from the site.

7.7.6. Erosion and Sediment Control

Erosion and sediment controls must be in place prior to commencement of work. The nature of the erosion and sediment controls will depend on the amount of water generated by construction activity and dust suppression. Examples include sediment barriers and traps to mitigate sediment load entering the stormwater system or migrating offsite. Sediment controls (i.e. hay bales, sandbags and/or silt fencing) shall be installed surrounding stockpiles.

7.7.7. Personal Protective and Respiratory Protective Equipment

Personnel onsite will be required to wear appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE) in line with WHS requirements specific to the task. For workers working within asbestos exclusion zones, the following PPE/RPE is also mandatory:

- A P2 disposable respirator. A half face respirator (i.e. Sundstrom SR900 Half Mask) with P3 particle filter shall be donned at the discretion of the occupation hygienist or Class B LARC;
- Footwear that can be easily decontaminated (i.e. gumboots) or disposable booties;
- Type 5 Tyvek suits at the discretion of the occupation hygienist or Class B LARC; and
- Disposable nitrile gloves if handling soil.

Excavator operators or truck drivers may be exempt from asbestos RPE requirements within the cab if it can be shown that the excavator/truck cabs can be sealed during works and reverse cycle air conditioning can be engaged.

Respirators must comply with AS/NZS1715–2009 Selection, use and maintenance of respiratory equipment. Occupational protective gloves shall comply with EN 420:1994(AS/NZS 2161.2:1998)–Occupational Protective Gloves, Part 2 General Requirements.

Examples of appropriate PPE and RPE are provided in Appendix F.

7.7.8. Asbestos Decontamination

Machinery and reusable equipment shall be decontaminated in a designated Decontamination Area using water and wet rags.

To reduce the risk of an asbestos waste bag tearing or splitting and to assist in manual handling, asbestos waste bags should not be filled more than half full (depending on the weight of the items) and excess air should be gently evacuated from the waste bag in a way that does not cause the release of dust.

In the event that FA/ AF are identified during remediation works a more rigorous asbestos decontamination regime will be required to be adopted. Decontamination facilities will be required for machinery, equipment, and workers carrying out asbestos related work. Based on the nature of the proposed excavation works and in consideration of site conditions, decontamination procedures shall include, but not be limited to:

- Establishment of a **'personal decontamination area'** and **'personal clean area'** adjacent to the asbestos work area using bollards and tiger tails, and 200 µm polythene sheeting on the ground. A trailer mounted 3 or 5 Stage Modular Decontamination Unit may be used for personal decontamination in place of a dry-decontamination area;
- When entering the asbestos exclusion area:
    1. Workers must enter the 'Personal Clean Area' and change into clean asbestos specific protective clothing;
    2. Any removed personal clothing must be stored in a dust-proof container;
    3. Move into the site;
- When leaving the asbestos exclusion area:
    1. Workers must enter the 'Personal Decontamination Area' and:
        - Remove any visible asbestos dust/residue from protective clothing by wiping down with damp cloths/wet wipes;
        - Place cloths/wet wipes into heavy duty polythene asbestos waste bags (1200mm long, 900mm wide, and 200 µm thick);
        - Carefully remove disposable protective clothing and place into asbestos waste bags (RPE must still be worn);
        - Use a footbath and/or damp cloths/wet wipes to wipe down footwear and place cloths/wet wipes into asbestos waste bags;
        - Place disposable mask into asbestos waste bags or wet wipe half face respirator;
        - Seal all asbestos waste bags with duct tape and place each into a second plastic bag;
        - Seal this second plastic bag and label/mark as 'Asbestos Waste' for subsequent off-site disposal. The bags must be twisted tightly and have the neck folded over and secured with adhesive tape (referred to as goose-necking);
    2. Move into the 'Personal Clean Area' and put on personal clothes;
- The 200 µm polythene sheeting which was placed on the ground in the personal decontamination area shall be disposed of as asbestos waste at the completion of the works.

7.7.9. Handling of Asbestos Impacted Soil

ACM impacted soil shall be handled in such a manner as to minimise the potential for cross contamination of other areas of the site by:

- Placing soil directly into trucks where practical;
- Not overloading trucks and covering loads;

- Keeping movements of vehicles, plant and equipment to a practical minimum and maintaining low speeds during transportation;
- Using designated transportation routes/corridors between designated stockpile areas;
- Tracking of ACM and soil from cradle to grave by principal contractor; and
- Where temporary stockpiling is required, placing the soil on a reasonably robust barrier (i.e. concrete, geofabric and plywood).

7.7.10. Stockpile Management

Given the surrounding residential landuse and size of the site, temporary stockpiling of asbestos impacted soil should be avoided. Where this is not possible, the following is required for temporary stockpiled soil impacted with asbestos:

- Stockpiles shall be established:
  - Away from adjacent properties, drainage lines and water bodies. Avoid designated drains, sumps and low-lying areas subject to flooding or runoff;
  - On a reasonably robust barrier (i.e. concrete, geofabric and plywood) or on existing fill. If stockpiles are placed on natural/uncontaminated soil, then over-excavation is likely to be required to facilitate validation;
- Dust suppression and erosion and sediment controls shall be in place in accordance with Section 9.7.5 of this RAP;
- Stockpiles shall:
  - Not exceed the height of site boundary hoarding to minimise dust generation from the site;
  - Be less than 1m in height with side slopes to be a maximum ratio of 1V:2H;
  - Be appropriately labelled to minimise the risk of cross contamination; and
  - Be positioned and formed to minimise potential for stockpile erosion where possible.

At the end of each day, stockpiles shall be wetted down, covered with 200 µm polythene sheeting or geofabric and secured to prevent the soil cover being removed by wind, or unauthorised persons.

7.7.11. Asbestos Fibre Air Monitoring

A suitably trained occupational hygienist shall carry out air monitoring of the work area during excavation and handling of asbestos impacted soil. The suitably trained occupational hygienist shall undertake control and exposure monitoring using static or positional samples during excavation and handling of asbestos impacted soil. Asbestos fibre air monitoring results shall be discussed at the following shift toolbox talk and presented on a site noticeboard to inform site workers of the results.

Air monitoring shall be conducted by a National Association of Testing Authorities (NATA) accredited laboratory in accordance the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003 (2005)] and Australian Standard AS ISO/IEC 17025 – 2005, General requirements for the competence of testing and calibration laboratories. Air Monitoring Reports are required to be issued in accordance with NATA's accreditation requirements.

Works must be suspended if the air monitoring results are found to be above the detection limit of 0.01 fibres per millilitre of air (f/mL). The control limits/action levels are set out in **Table 7.2**.

Table 7.2: Air Monitoring Control Limits.

Action level (fibres/ml)	Control	Action
< 0.01	No new control measures are necessary	Continue with control measures.
0.01 to ≤ 0.02	1 – Review	Review control measures.
	2 – Investigate	Investigate the cause.
	3 – Implement	Implement controls to eliminate or minimise exposure and prevent further release.
> 0.02	1 - Stop removal work	Stop earthworks.
	2 - Notify regulator	Notify the regulator (SafeWork NSW) by phone followed by written statement that work has ceased & the results of the air monitoring.
	3 - Investigate the cause	Conduct a thorough visual inspection of the site in consultation with all workers involved.
	4 - Implement controls to eliminate or minimise exposure and prevent further release	Review the controls to eliminate or minimise exposure and prevent further release
	5 - Do not recommence removal work until further air monitoring is conducted	Do not recommence until fibre levels are ≤ 0.01 fibres/mL

7.8. Waste Management

Prior to the disposal of material from the site, the Remediation Consultant will be required to carry out a waste classification assessment in accordance with the NSW EPA (2014) Waste Classification Guidelines: Part 1 Classifying Waste.

Sample frequencies for stockpiled spoil are outlined in Section 7.5 of Schedule B2 of the ASC NEPM 2013. Sampling requirements to assess in-situ soils are outlined in Table A of the NSW EPA (1995) Contaminated Sites: Sampling Design Guidelines. Analytes to be assessed for the waste classification are presented in Table 1 of the Waste Classification Guidelines and will include as a minimum asbestos, TRH, BTEX, PAH, OCP and heavy metals.

7.9. Transport and Management of Asbestos Waste

There are regulatory requirements under Part 7 of the POEO Waste Regulation (2014) that apply to the transport and management of asbestos waste, including but not limited to:

- Requirement relating to storage of waste generally:
  - Waste must be stored on the premises in an environmentally safe manner;
- General requirements applying to transportation of asbestos waste:
  - Any part of any vehicle in which the person transports the waste is covered and contained (i.e. the load is covered and contained to prevent the release of asbestos to the surrounding environment during transportation);
  - Non-friable asbestos material must be securely packaged;
  - Friable asbestos material must be kept in a sealed container;
  - Asbestos-contaminated soil must be wetted down;

- Asbestos waste must be disposed of at a landfill site that can lawfully receive this waste. Always contact the landfill beforehand to find out whether asbestos is accepted and any requirements for delivering asbestos to the landfill;
- When a person delivers asbestos waste to a landfill site, the person must inform the occupier of the landfill site that the waste contains asbestos; and
- It is illegal to dispose of asbestos waste in domestic garbage bins.

It is also illegal to re-use, recycle or dump asbestos waste.

7.10. Reporting and Tracking of Asbestos Waste

For asbestos, the POEO (Waste) Regulation 2014 requires tracking of each load of asbestos greater than 100 kilograms, or 10 square metres within NSW. The POEO (Waste) Regulation 2014 requires the transport of asbestos in NSW to be recorded from the place of generation to its final destination using the NSW EPA's online "WasteLocate" system.

Transporters of asbestos waste are required to fulfil their duties with regards to tracking of asbestos and asbestos contaminated soil. Enquiries should be made with the EPA prior to offsite to disposal to confirm the status of the WasteLocate App and requirement to track asbestos waste generated during the earthworks.

7.11. Record Keeping

During material removal from site the following information shall be recorded (i.e. on a Materials Tracking Plan) and maintained by LAHC and provided to the Validation Consultant (i.e. Coffey) at the completion of the works:

- Waste classification reports;
- Landfill dockets and Environmental Protection Licence (EPL) numbers;
- Date and time of disposal;
- Name and address of landfill;
- Amount of waste (volume or weighed mass);
- Type of waste (waste classification);
- Material description; and
- Transport company including Truck registrations.

8. Validation Report

The validation report aims to provide an independent verification that remedial goals have been met.

At the completion of remediation and validation works, a validation report shall be prepared in general accordance with the relevant sections of NSW EPA (2020) Consultants Reporting on Contaminated Land and other relevant guidance documentation.

The validation report shall be prepared by a suitably qualified and experienced environmental consultant and shall include:

- Site identification details;
- A summary of the environmental setting and history of the site;
- A summary of previous investigations;
- An overview of the asbestos impacted which required remediation;
- An outline of the remedial and validation works carried out;
- Information demonstrating compliance with appropriate regulations and guidelines;
- Any variations to the strategy undertaken during the implementation of the remedial works;
- Details of any environmental incidents and/or unexpected finds of contamination occurring during the course of the remedial works and the actions undertaken in response to these incidents;
- Details on waste classification and materials disposed off-site;
- Details on waste classification, tracking and off-site disposal (including environment protection licence (EPL) details); and
- A clear statement on whether the remediation goals have been achieved.

9. Contingency Plan and Unexpected Finds

The conditions encountered during remedial works can be uncertain. A set of typical issues and proposed corrective actions associated with a remediation program is provided in **Error! Reference source not found.**. Should an unexpected find be identified then the unexpected finds procedure included in Appendix G shall be followed.

Table 9.1: Contingency Plan

Potential issues	Proposed corrective actions, as appropriate	Responsible person	Communication and additional sampling/ monitoring
Excessive dust	Use water sprays; stop dust-generating activity until better dust control can be achieved or apply interim capping systems on stockpiles or exposed material. Stop work in high wind conditions.	Remedial contractor	Breaches are to be recorded in the daily site log. Additional monitoring/sampling may be required – refer to Section 9.7.11.
Heavy rain	Ensure sediment and surface water controls are operating correctly. If possible, divert surface water away from active work areas or excavations. Cover stockpiles.	Remedial contractor	None if contained on site. If discharge off site then water quality monitoring may be required
Equipment failures	Maintain spare equipment or parts; keep rental options available or shut down affected operations until repairs are made.	Remedial contractor	Sample any impacted stockpiled materials (TRH, BTEX compounds and PAH) and determine appropriate disposal/treatment option based on an assessment of analytical results.
Friable asbestos is encountered	Cease works within the affected area, cover the material with soil and the secure the area until an appropriate course of action has been determined.	Remedial contractor	Licenced asbestos assessor to test the material and provide advice for remediation. A contingency strategy for capping asbestos impacted soil on site would be discussed if friable asbestos is encountered.
Additional ACM found at depth	Cease works within the affected area, cover the material with soil and the secure the area until an appropriate course of action has been determined.	Remedial contractor	Licenced asbestos assessor to test the material and provide advice for remediation. A contingency strategy for capping asbestos impacted soil on site would be discussed if friable asbestos is encountered.
Complaints are received directly relating to the works undertaken	Stop works and implement control measures to address complaint (if possible).	Remedial contractor	Notify relevant Project Managers following complaint and follow incident procedure.

10. Conclusion

LAHC are redeveloping the site for high density residential. Fill impacted with ACM was identified at beneath 20 and 22 Mindarie Street during the DSI. There is also uncertainty regarding the presence of ACM beneath 30 Pinaroo Place as access was restricted at the time of the investigation.

Based upon a review of appropriate remedial technologies and discussions with LAHC, the preferred remedial strategy is offsite disposal of asbestos impacted soil. Observations shall be carried out following the demolition of 30 Pinaroo Place to assess if ACM is also impacting surface fill.

The remedial works will be required to be validated by a suitably qualified consultant which shall include clearance inspections and a review of waste disposal documentation. At the completion of the remedial works, a validation report will be required to be prepared in general accordance with NSW OEH 2011 *Guidelines for Consultants Reporting on Contaminated Sites*, and the amended ASC NEPM, documenting the works as completed.

Subject to the successful implementation of the measures detailed in this RAP, it is considered that the remedial goals required to satisfy SEPP55 can be achieved.

11. Limitations

This report should be read in conjunction with the attached “Important information about your Coffey Environmental Report”.

Appendix A - Limitations

Important information about your **Coffey** Environmental Report

Introduction

This report has been prepared by Coffey for you, as Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice.

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Coffey should be kept appraised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statues and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Coffey would be pleased to assist with any investigation or advice in such circumstances.

Recommendations in this report

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be reviewed and may need to be revised.

Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see how other professionals have incorporated the report findings.

Given Coffey prepared the report and has familiarity with the site, Coffey is well placed to provide such assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Coffey disowns any responsibility for such misinterpretation.

Data should not be separated from the report

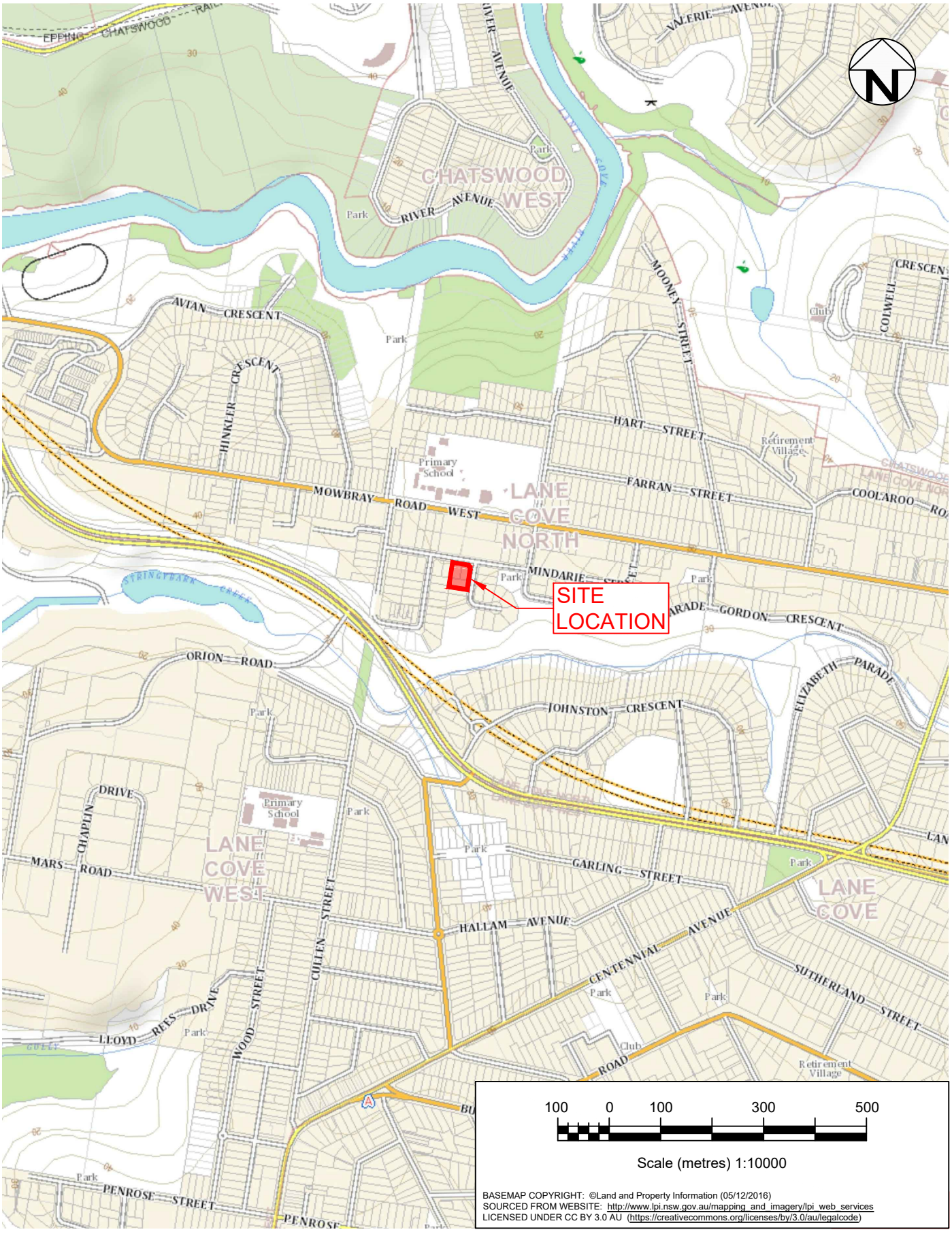
The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

Responsibility

Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site.

Appendix B – Figures



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date	23 / 06 / 2020
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coffey
A TETRA TECH COMPANY

client: NSW LAND AND HOUSING CORPORATION

project: REMEDIAL ACTION PLAN
20 & 22 MINDARIE STREET AND 30 PINNAROO PLACE
LANE COVE NORTH, NSW

title: SITE LOCATION

project no: ----

figure no: FIGURE 1

rev: A

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original size	A3

coffey
A TETRA TECH COMPANY

client: NSW LAND AND HOUSING CORPORATION

project: REMEDIAL ACTION PLAN
20 & 22 MINDARIE STREET AND 30 PINNAROO PLACE
LANE COVE NORTH, NSW

title: DSI ASSESSMENT LOCATIONS

project no: 754-SYDEN228277-R01 | figure no: FIGURE 2 | rev: A

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Scale (metres) 1:400

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coffey
A TETRA TECH COMPANY

client: NSW LAND AND HOUSING CORPORATION

project: REMEDIAL ACTION PLAN
20 & 22 MINDARIE STREET AND 30 PINNAROO PLACE
LANE COVE NORTH, NSW

title: SAMPLE LOCATIONS

project no: 754-SYDEN228277-R01 | figure no: FIGURE 3 | rev: A

Appendix C – Analytical Results Table

		Asbestos	Physical Parameters			Heavy Metals										Total Recoverable Hydrocarbons												BTEX							PAHS	
		Asbestos - Presence / Absence	Cation Exchange Capacity (CEC)	Moisture Content (dried @ 103°C)	pH (aqueous extract)	Arsenic	Cadmium	Chromium	Copper	Iron	Mercury	Nickel	Lead	Zinc	F1 (C6-C10)	F1 (C6-C10) less BTEX	F2 (C10-C16 Hydrocarbons)	F3 (C16-C34 Hydrocarbons)	C34-C40	C10 - C40 (Sum of total)	F2 C10-C16 (minus Naphthalene)	C6 - C9	C10 - C14	C15 - C28	C29-C36	>C10 - C36 (Sum of total)	Benzene	Ethylbenzene	Toluene	Xylenes Total	Xylene (o)	Xylenes (m & p)	Naphthalene	Benzo(a) pyrene	PAHs (Sum of total)
			meq/100g	%	pH_Units	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		Detected	0.05	1	0.1	2	0.4	5	5	20	0.1	5	5	5	20	20	50	100	100	100	50	20	20	50	50	50	0.1	0.1	0.1	0.3	0.1	0.2	0.5	0.5	0.5
NEPC (2013) Table 1A(1) HILs Residential - B Soil						500	150		30000		120	1200	1200	60000																			1400		400
NEPC (2013) Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m																45					110						0.5	55	160	40			3		
NEPC (2013) EILs Urban Residential / public open space (4), (5)						100		210 [6]	310 [3]			40 [7]	1260	350 [1]																			170		
NEPC (2013) Table 1B(6) ESLs for Urban Residential, Coarse Soil 0-2m																180		300	2800		120						50	70	85	105				0.7	
CRC CARE (2011) Residential A (Direct Contact)															4400		4400	4500	6300								100	4500	14,000	12,000			1400		
NEPC (2013) Table 1B(7) Management Limits in Residential / Parkland, Coarse Soil															700		1000	2500	10000																
Field_ID	**Sample_Depth_Range**	**Matrix_Description**	**Location_Code**																																		
BH01_0.0-0.1	0.0-0.1	FILL	Lane Cove North	ND	-	9.4	-	5.1	<0.4	45	34	-	<0.1	39	120	92	<20	<20	<50	160	<100	160	<50	<20	<20	130	63	193	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH01_0.3-0.4	0.3-0.4	NATURAL	Lane Cove North	-	4.6	13	7.2	11	<0.4	43	17	31,000	<0.1	<5	16	17	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH02_0.0-01	0.0-0.1	FILL	Lane Cove North	ND	-	17	-	2.8	<0.4	9.4	39	-	<0.1	<5	32	51	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	<0.5	<0.5
BH02_0.1-0.2	0.1-0.2	NATURAL	Lane Cove North	-	3.8	11	6.3	2.3	<0.4	8.7	6.3	9300	<0.1	<5	12	12	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH03_0.0-01	0.0-0.1	FILL	Lane Cove North	ND	-	16	-	3.8	0.7	13	29	-	<0.1	11	240	270	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	<0.5	<0.5
BH04_0.0-01	0.0-0.1	FILL	Lane Cove North	ND	-	21	-	5.8	1.4	29	74	-	<0.1	8.8	230	410	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH05_0.0-01	0.0-0.1	FILL	Lane Cove North	ND	-	19	-	5	2.5	19	170	-	<0.1	<5	78	210	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH05_0.1-0.2	0.1-0.2	NATURAL	Lane Cove North	-	-	18	-	5.6	1.3	15	87	-	<0.1	<5	39	110	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH06_0.0-01	0.0-0.1	FILL	Lane Cove North	ND	-	21	-	9.6	<0.4	15	25	-	<0.1	6.5	89	300	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	<0.5	<0.5
BH07_0.0-01	0.0-0.1	FILL	Lane Cove North	ND	-	17	-	2.8	<0.4	10	5.8	-	<0.1	<5	45	47	<20	<20	<50	150	<100	150	<50	<20	<20	<50	130	130	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	-	-
BH07_0.1-0.2	0.1-0.2	NATURAL	Lane Cove North	-	-	16	-	6.9	<0.4	37	6.1	-	<0.1	<5	29	59	<20	<20	<50	<100	<100	<100	<50	<20	<20	<50	<50	<50	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	<0.5	<0.5	<0.5
SS01	Surface	FILL	Lane Cove North	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02	Surface	FILL	Lane Cove North	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03	Surface	FILL	Lane Cove North	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
ND - Not Detected
' - ' = Not analysed
NL - Non-Limiting
NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999
CRC Care (2011); Technical Report No. 10: Health Screening Levels for Petroleum Hydrocarbons in soil and groundwater
BTEX - Benzene, Toluene, Ethylbenzene, Xylene
HIL = Health Investigation Level
HSL = Health Screening Level
TRH - Total Recoverable Hydrocarbons
PAH - Polycyclic Aromatic Hydrocarbons
OCP - Organochlorine Pesticides
OPP - Organophosphate Pesticides
PCB - Polychlorinated Biphenyls
[1] based on a pH of 6.5 and cation exchange capacity of 5cmolc/kg
[2] EIL for DDT
[3] based on a pH of 6.5.
[4] Derived from Okoronkwo H et al (1995) using 25%ile concentrations for an old suburb with high traffic in NSW
[5] EIL = Contaminant Limit + Ambient Background Concentration. rounded.
[6] Based on a (conservative) clay content 1%.
[7] Based on a cation exchange capacity of 5cmolc/kg.

				PCBs								Herbicides / Pesticides		
				Aroclor 1260	Aroclor 1254	Aroclor 1221	Aroclor 1232	Aroclor 1248	Aroclor 1016	Aroclor 1242	PCBs (Sum of total)	Herbicides	OCPs	OPPs
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.05
NEPC (2013) Table 1A(1) HILs Residential - B Soil											1			
NEPC (2013) Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand 0-1m														
NEPC (2013) EILs Urban Residential / public open space (4), (5)													180 [2]	
NEPC (2013) Table 1B(6) ESLs for Urban Residential, Coarse Soil 0-2m														
CRC CARE (2011) Residenital A (Direct Contact)														
NEPC (2013) Table 1B(7) Management Limits in Residential / Parkland, Coarse Soil														
Field_ID	**Sample_Depth_Range**	**Matrix_Description**	**Location_Code**											
BH01_0.0-01	0.0-0.1	FILL	Lane Cove North	-	-	-	-	-	-	-	-	<LOR	<LOR	<LOR
BH01_0.3-0.4	0.3-0.4	NATURAL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-
BH02_0.0-01	0.0-0.1	FILL	Lane Cove North	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<LOR	<LOR	<LOR
BH02_0.1-0.2	0.1-0.2	NATURAL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-
BH03_0.0-01	0.0-0.1	FILL	Lane Cove North	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<LOR	<LOR	<LOR
BH04_0.0-01	0.0-0.1	FILL	Lane Cove North	-	-	-	-	-	-	-	-	<LOR	<LOR	<LOR
BH05_0.0-01	0.0-0.1	FILL	Lane Cove North	-	-	-	-	-	-	-	-	<LOR	<LOR	<LOR
BH05_0.1-0.2	0.1-0.2	NATURAL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-
BH06_0.0-01	0.0-0.1	FILL	Lane Cove North	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<LOR	<LOR	<LOR
BH07_0.0-01	0.0-0.1	FILL	Lane Cove North	-	-	-	-	-	-	-	-	<LOR	<LOR	<LOR
BH07_0.1-0.2	0.1-0.2	NATURAL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-
SS01	Surface	FILL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-
SS02	Surface	FILL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-
SS03	Surface	FILL	Lane Cove North	-	-	-	-	-	-	-	-	-	-	-

Notes:
ND - Not Detected
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NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999
CRC Care (2011); Technical Report No. 10: Health Screening Levels for Petroleum Hydrocarbons in s
BTEX - Benzene, Toluene, Ethylbenzene, Xylene
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TRH - Total Recoverable Hydrocarbons
PAH - Polycyclic Aromatic Hydrocarbons
OCP - Organochlorine Pesticides
OPP - Organophosphate Pesticides
PCB - Polychlorinated Biphenyls
[1] based on a pH of 6.5 and cation exchange capacity of 5cmolc/kg
[2] EIL for DDT
[3] based on a pH of 6.5.
[4] Derived from Okonowy H et al (1995) using 25%ile concentrations for an old suburb with high traffi
[5] EIL = Contaminant Limit + Ambient Background Concentration. rounded.
[6] Based on a (conservative) clay content 1%.
[7] Based on a cation exchange capacity of 5cmolc/kg.

Appendix D – Statistical Appraisal

General UCL Statistics for Full Data Sets

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Zinc

General Statistics

Number of Valid Observations	7	Number of Distinct Observations	7

Raw Statistics		Log-transformed Statistics	
Minimum	47	Minimum of Log Data	3.85
Maximum	410	Maximum of Log Data	6.016
Mean	197.1	Mean of log Data	4.996
Geometric Mean	147.8	SD of log Data	0.885
Median	210		
SD	139.2		
Std. Error of Mean	52.63		
Coefficient of Variation	0.706		
Skewness	0.298		

Warning: A sample size of 'n' = 7 may not adequate enough to compute meaningful and reliable test statistics and estimates!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible compute and collect Data Quality Objectives (DQO) based sample size and analytical results.

Warning: There are only 7 Values in this data
Note: It should be noted that even though bootstrap methods may be performed on this data set,
the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.917	Shapiro Wilk Test Statistic	0.884
Shapiro Wilk Critical Value	0.803	Shapiro Wilk Critical Value	0.803
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	299.4	95% H-UCL	740.9
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	503.3
95% Adjusted-CLT UCL (Chen-1995)	290	97.5% Chebyshev (MVUE) UCL	632.7
95% Modified-t UCL (Johnson-1978)	300.4	99% Chebyshev (MVUE) UCL	887.1

Gamma Distribution Test		Data Distribution
k star (bias corrected)	1.172	Data appear Normal at 5% Significance Level
Theta Star	168.3	
MLE of Mean	197.1	
MLE of Standard Deviation	182.1	

nu star	16.4
Approximate Chi Square Value (.05)	8.247
Adjusted Level of Significance	0.0158
Adjusted Chi Square Value	6.579
Anderson-Darling Test Statistic	0.401
Anderson-Darling 5% Critical Value	0.716
Kolmogorov-Smirnov Test Statistic	0.201
Kolmogorov-Smirnov 5% Critical Value	0.316

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	392.1
95% Adjusted Gamma UCL (Use when n < 40)	491.5

Nonparametric Statistics

95% CLT UCL	283.7
95% Jackknife UCL	299.4
95% Standard Bootstrap UCL	277.2
95% Bootstrap-t UCL	302.7
95% Hall's Bootstrap UCL	273.1
95% Percentile Bootstrap UCL	280.3
95% BCA Bootstrap UCL	283
95% Chebyshev(Mean, Sd) UCL	426.5
97.5% Chebyshev(Mean, Sd) UCL	525.8
99% Chebyshev(Mean, Sd) UCL	720.8

Potential UCL to Use

Use 95% Student's-t UCL 299.4

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix E – Induction Records

Name	Company	Date	Signature	Inducted by

Appendix F – Asbestos PPE

Asbestos Materials Personal Protective Equipment (PPE)

During asbestos-related earthworks, PPE must be worn by the licenced asbestos removal contractor, the licensed asbestos assessor and other personnel who are required to enter the waterhole. The following PPE shall be used as required:

Types of Asbestos Materials PPE	
PPE	**Example Photo**
Half faced disposable P2/P3 respirator.	
Half faced respirator with a P3 particulate filter cartridge.	
Full faced respirator with a P3 particulate filter cartridge	
Disposable coveralls rated Type 5/6 or equivalent e.g. Tyvek	
Appropriate glasses or goggles.	
Appropriate gloves i.e. cut resistant gloves for working with soil and disposable nitrile gloves to be worn over the cut resistant gloves, where required.	

It is important to note that the disposable coveralls and gloves are single use only and must be disposed of as Special Waste (Asbestos Waste) after each use. Respirators needs to be decontaminated. Cartridges must be inspected and replaced as required dependent upon the type and duration of usage.

Appendix G – Unexpected Finds Protocol

If an unexpected find is identified during earthworks, the following procedure shall to be followed:

1. Cease disturbance of the affected portion of the site.
2. Immediately implement controls if it is considered that the unexpected find may pose an immediate risk of harm to human health or the environment, and it is safe to do so.
3. Notify the relevant authorities if required (i.e. NSW EPA, SafeWork NSW).
4. Contact the Site Supervisor, Principal Contractor and the Contractors Environmental Representative (CER) for inspection.
5. Site Supervisor, Principal Contractor and CER to conduct an assessment of the location and extent of the unexpected find, if safe to do so.
6. Work Health and Safety (WHS) and environmental controls shall be established based on initial observations, if required. These may include but not be limited to:
    a. Controlling access by establishment of barricades and warning signs.
    b. Encapsulating with clean soil, plastic or geofabric.
    c. Establishing erosion and sediment controls
    d. Employing dust mitigation measures.
    e. Air monitoring.
7. Further visual assessment and sample collection and analysis shall be carried out by a qualified environmental consultant or occupational hygienist, if required. If necessary, samples shall be collected and analysed at a laboratory for contaminants of potential concern using National Association of Testing Authorities (NATA) accredited methods.
8. Depending on the outcome of the assessment by the environmental consultant / occupational hygienist, the unexpected find may need to be further assessed, managed, remediated or disposed offsite in accordance with regulatory requirements.
9. A meeting/workshop shall be held by the Principal Contractor. The CER, environmental consultant / occupational hygienist and key stakeholders shall attend the meeting to determine an appropriate course of action. This should include discussions around the handling, treatment and disposal of material; Workplace Health and Safety considerations; and how the affected area shall be validated.
10. Affected areas shall be reopened for earthworks following a clearance of the location and issuance of a report by the environmental consultant / occupational hygienist and/or instruction from the Principal Contractor or CER.

Any unexpected finds encountered should be listed on a UFP register, which should include the action taken and the status of the unexpected find. A suitable register is attached.

Prior to closing out an unexpected find it will be important to ensure the appropriate documentation is obtained, such as: photographs, the UFP form, waste classification letter(s) and a validation report or letter.

UNEXPECTED FINDS PROTOCOL FORM

To be completed by the Site Supervisor/Environmental Representative

Form Completed By	
Company Name	
Contact Details	
Date Form Completed	
Date Unexpected Find Identified	
UFP Reference Number	
Location of Unexpected Find including a site sketch	
Description of Unexpected Find	
Persons Contacted / Notified	
Unexpected finds isolated	Yes ☐ No ☐
Description of controls established	
Photographs taken	Yes ☐ No ☐
Further Assessment Required	Yes ☐ No ☐
Other Comments	

Unexpected Finds Register					
UFP Reference Number	**Date UFP Identified**	**Suspect Material**	**Recorded on UFP Form**	**Action Taken**	**Status**
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		

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