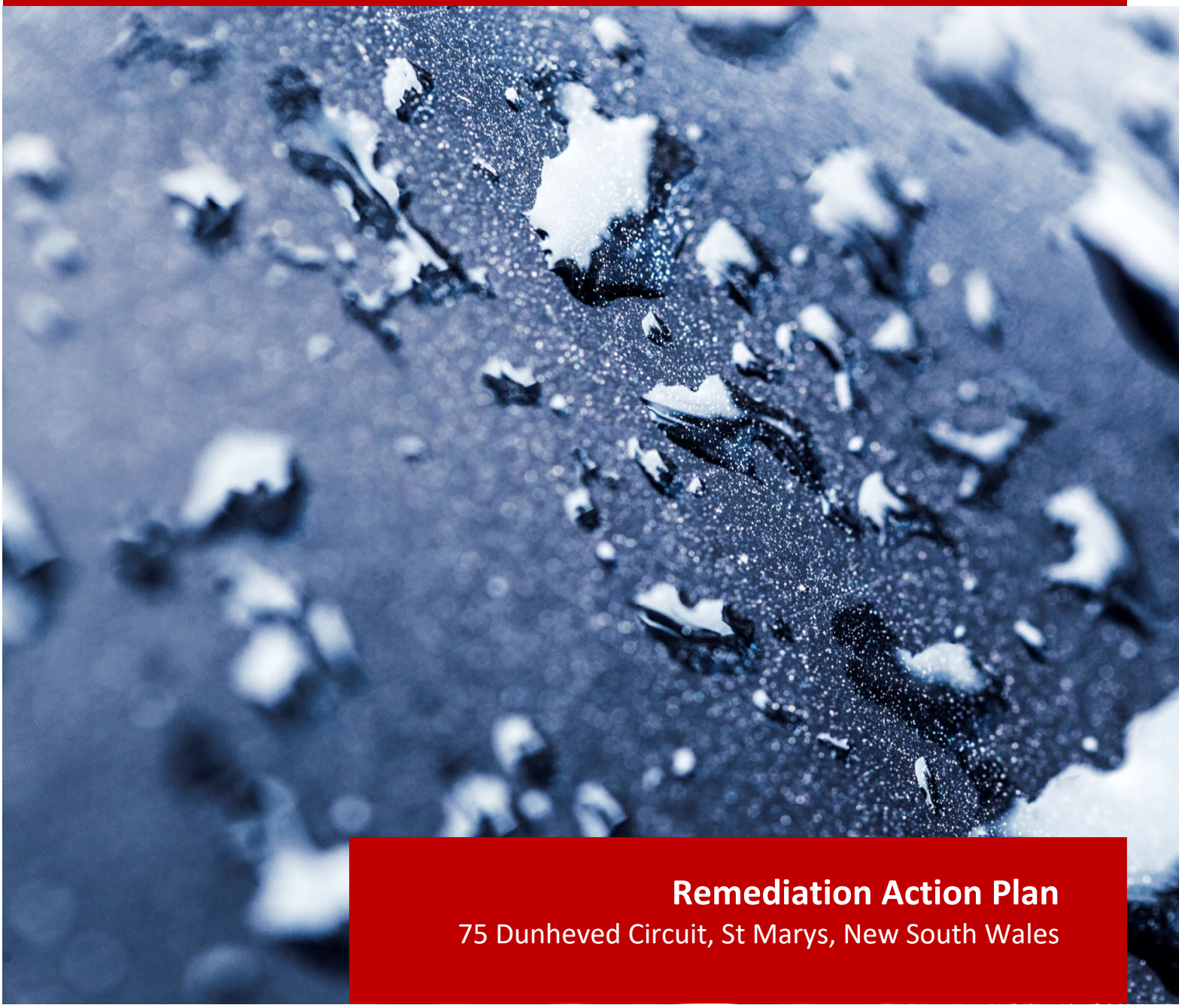

Remediation Action Plan

75 Dunheved Circuit, St Marys, New South Wales

Prepared for: Fife Capital Pty Ltd
EP2151.001_v1 7 September 2021

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Remediation Action Plan

75 Dunheved Circuit, St Marys, New South Wales

Fife Capital Pty Ltd
Via email: Rebecca.bestic@fifecapital.com.au

7 September 2021

Our Ref: EP2048.002_v1

LIMITATIONS

This Remediation Action Plan was prepared on the behalf of Fife Capital Pty Ltd for the purpose/s stated in **Section 1**.

EP Risk has prepared this document in good faith, but is unable to provide certification outside of areas over which EP Risk had some control or were reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in a Remediation Action Plan to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation 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.

All work conducted and reports produced by EP Risk are based on a specific scope and have been prepared for Fife Capital Pty Ltd and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

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QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	L. Munnichs	07.09.2021	A. Thomson	07.09.2021	A. Thomson	07.09.2021

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*07.09.2021*	*EP2048.002_FIFE_St Marys_RAP_v1*	*Fife Capital Pty Ltd*

Executive Summary

Fife Capital Pty Ltd (Fife) engaged EP Risk Management Pty Ltd (EP Risk) to prepare this Remediation Action Plan (RAP) for the proposed subdivision of Lot 2 in Deposit Plan (DP) 1175850, located at 75 Dunheved Circuit, St Marys, New South Wales (NSW) and is currently zoned IN1 – General Industrial, under the Penrith Local Environmental Plan (LEP) 2010 (currency 31.03.2021).

The RAP was requested to support the proposed subdivision of Lot 2 DP 1175850 into two Lots (Lot 1 and Lot 2). Based on previous assessments undertaken by KPMG, WSP and EP Risk, the proposed southern Lot 2 is contaminated with asbestos in soils (ASBINS) and remediation is required to make this part of the subdivision suitable for the proposed industrial/commercial land use. This RAP is limited to proposed Lot 2 and covers a total area of approximately 2 hectares (ha).

The purpose of the RAP is to review existing reports prepared for the Site, prepare an up-to-date conceptual site model (CSM) and to detail the preferred remediation methodology for the Site, incorporating the identified asbestos impacts, to render the Site suitable for the proposed subdivision by Council conditioning implementation of the RAP on the subdivision consent.

The proposed Lot 2 is understood to comprise the following:

- Construction of a warehouse, underground OSD Tank, office (2 levels) and outdoor parking area for 53 cars.
- Most of the outdoor area will be covered with heavy duty pavement and light duty pavement.
- A small, landscaped area on the south-western boundary.

The remediation extent is based on the findings and conclusions of previous assessments undertaken in 2019 and 2021. FILL material contaminated with asbestos has been observed over the Site (proposed Lot 2) to a depth ranging between 0 to >3mBGL. Exceedances of adopted human health criteria for bonded Asbestos and asbestos fines / fibrous asbestos (AF/FA) within fill material were identified at the Site. These contaminations are considered to pose a potential human health risk to current and future users / construction workers at the Site. Consequently, the remediation scope as outlined within the updated RAP comprises the following:

1. Assigning roles and responsibilities.
2. Preparation of WHS documents, construction environment management plan (CEMP) regulatory approval, licensing and notifications. EP Risk notes that the excavation works should be undertaken under supervision by a SafeWork NSW Class A (friable) Licenced Asbestos Removal Contractor (ARC).
3. Site establishment.
4. Remediation and associated tasks
    a) Asbestos Air Monitoring
    b) Excavation and Capping Works
    c) Additional in-situ waste classification sampling (if required)
    d) Importation of clean ENM/VENM (if required)
5. Validation and provision of a validation report and long-term environmental management plan (LTEMP)
6. Contingency Plan.

Subject to the provision of a remedial work method statement, EP Risk considers that implementation of the remediation strategy and subsequent validation works, and associated activities outlined in this RAP, will render the Site suitable for the proposed commercial/industrial land use.

If the proposed development of proposed Lot 2 will not be undertaken within a reasonable timeframe (1 year), an Interim Asbestos Management Plan (IAMP) should then be prepared to manage the contamination. The objective of the IAMP is to prepare a practical, yet provisional plan to manage the identified hazardous materials and risks on the Site, so no risk exists to occupants, maintenance personnel or neighbouring properties, prior to future site re-development or remediation.

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1 Introduction

Fife Capital Pty Ltd (Fife) engaged EP Risk Management Pty Ltd (EP Risk) to prepare this Remediation Action Plan (RAP) for the proposed subdivision of Lot 2 in Deposit Plan (DP) 1175850, located at 75 Dunheved Circuit, St Marys, New South Wales (NSW) and is currently zoned IN1 – General Industrial, under the Penrith Local Environmental Plan (LEP) 2010 (currency 31.03.2021).

The RAP was requested to support the proposed subdivision of Lot 2 DP 1175850 into two Lots (Lot 1 and Lot 2). Based on previous assessments undertaken by KPMG, WSP and EP Risk, the proposed southern Lot 2 is contaminated with asbestos in soils (ASBINS) and remediation is required to make this part of the subdivision suitable for the proposed industrial/commercial land use. This RAP is limited to proposed Lot 2 and covers a total area of approximately 2 hectares (ha) (hereafter named as 'the Site').

The Site location and subdivision is provided as **Figure 1** and **Figure 2** in **Appendix A** of this report.

1.1 Background

Under the NSW State Environmental Planning Policy No. 55 (SEPP 55) Remediation of Land (1998) Clause 7 Council should consider "*whether the land is contaminated*" and "*if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out*".

Under the Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997) (SREP20) every remediation within the Hawkesbury-Nepean River catchment area is deemed Category 1 remediation and requires Council consent.

It is noted that the current site owner (Fife Capital) has entered into a sales contract with a potential buyer to purchase the proposed Lot 2 after the subdivision has been approved by Council. EP Risk understands that the potential buyer has already applied for a Development Application (DA) with Penrith Council however, the details of the proposed development are not fully understood. Therefore, in order to support the subdivision, Fife has requested a generic RAP to be prepared by EP Risk. The RAP provides the required details to make the site suitable however it is not of a prescriptive nature. A Remedial Work Method Statement (RWMS) should be prepared by the new site owner based on the content provided in this RAP.

The purpose of the RAP is to review existing reports prepared for the Site, prepare an up-to-date conceptual site model (CSM) and to detail the preferred remediation methodology for the Site, incorporating the identified asbestos impacts, to render the Site suitable for the proposed subdivision by Council conditioning implementation of the RAP on the subdivision consent.

1.2 Objective

The specific objectives of the RAP are to:

- Review potential remedial options with respect to regulatory requirements and Site constraints for the contaminated soil.
- Develop an appropriate remedial strategy for remediation of the contamination previously identified at the Site.
- Document the procedures to be followed.

It is noted the objectives of this RAP are to address ASBINS previously identified at the Site. No other potential areas of environmental concern ('AECs') or contaminants of potential concern ('CoPC') (if any) were required to be addressed within this RAP. Any additional impacts identified during development works will be managed using the unexpected finds protocol.

1.3 Scope of Work

The scope of work associated with the preparation of this RAP included:

1. Review of available historical soil and groundwater data and prepare an up-to-date Conceptual Site Model (CSM).
2. Review potential remedial options and technologies with respect to regulatory requirements, site constraints and the proposed subdivision.
3. Develop an appropriate remedial strategy, incorporating slab on grade structure and the landscaped areas, with respect to the previously identified soil contamination at the Site.
4. Document the procedures to be followed to render the Site suitable for the proposed subdivision.
5. Outline any validation and environmental management requirements for the site to be prepared following completion of remediation works.
6. Preparation of a RAP in accordance with the requirements of NSW *State Environmental Planning Policy No. 55* (SEPP 55) *Remediation of Land* (1998), and NSW Environment Protection Authority (NSW EPA) *Consultants Reporting on Contaminated Land – Contaminated Land Guidelines* (2020).

2 Technical Framework

EP Risk performed the works with the usual care and professionalism of the consulting industry. The works associated with the works were performed in general accordance with the following guidance:

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guielines (ANZG 2018).
    - ANZG (2018) is the current revision of the Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) guidelines, presented as an online platform.
- Australian Standard (AS) 4482.1 (2005) *Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-Volatile Compounds*.
- AS 4482.2 (1999) *Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances*.
- enHealth (2001) *Exposure Scenarios and Exposure Settings*, enHealth Council Australia.
- *Contaminated Land Management Act 1997* (CLM Act).
- enHealth (2012) *Australian Exposure Factor Guide. Department of Health and Ageing and enHealth Council Australia*.
- enHealth (2012) *Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risk from Environmental Hazards*. Department of Health and Ageing and enHealth Council Australia.
- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).
- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- *National Environment Protection Council Act 1994* (NEPC Act).
- National Environmental Protection Council (NEPC) (1999) *National Environment Protection (Assessment of Site Contamination) Measure*, as amended April 2013 (ASC NEPM 2013).
- National Health and Medical Research Council and National Resource Management Ministerial Council (NHMRC/NRMMC) (2011), *Australian Drinking Water Guidelines 6* (ADWG), version 3.4, updated October 2017 (Drinking Water Guidelines).
- NSW DEC (2007) *Guidelines for the Assessment and Management of Groundwater Contamination* (NSW Groundwater Guidelines).
- NSW Environment Protection Authority (NSW EPA) (1995) *Sampling Design Guidelines*.
- NSW EPA (2020) *Assessment and Management of Hazardous Ground Gases – Contaminated Land Guidelines* (NSW Hazardous Ground Gas Guidelines).
- NSW EPA (2014) *Waste Classification Guidelines: Part 1 – Classifying Waste* (NSW Waste Classification Guidelines).
- NSW EPA (2015) *Guidelines on the Duty to Report Contamination Under the* Contaminated Land Management Act 1997.
- NSW EPA (2017) *Guidelines for the NSW Auditor Scheme (3rd Edition)* (NSW Auditor Guidelines).

- NSW EPA (2020) *Consultants Reporting on Contaminated Land – Contaminated Land Guidelines*.
- NSW *State Environmental Planning Policy 55 – Remediation of Land* (SEPP 55), 1998.
- NSW *Work Health and Safety Act 2011* (WHS Act).
- NSW Work Health and Safety Regulation 2017.
- *Protection of the Environment Operations Act 1997* (POEO Act).
- Protection of the Environment Operations (Waste) Regulation 2014.
- Western Australian (WA) Department of Health (DOH) (2021) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.*
- Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997) (SREP20).

3 Site Identification

The Site is legally described as Lot 2 in Deposited Plan (DP) 1175850 and covers a total area of approximately 4 hectares (ha). The site is currently zoned IN1 – General Industrial, under the Penrith Local Environmental Plan (LEP) 2010.

It is understood Fife intends to subdivide the Site into two (2) separate parcels of land:

- **Lot 1**: located in the northern portion of the Site; and
- **Lot 2:** located in the southern portion of the Site.

Based on the available assessment data, as discussed in **Section 4.2**, remedial actions are required to be undertaken at proposed Lot 2 only. Therefore, the site subject to the RAP has been identified as proposed Lot 2 (the Site).

Pertinent Site identification details are presented in **Table 1**.

Table 1 – Site Identification

Item	Description
Address	75 Dunheved Circuit, St Marys, New South Wales
Legal Description	Part of Lot 2 in DP 1175850 (Proposed Lot 2)
Approximate Area	2.02 ha (Proposed Lot 2)
Municipality	Penrith City Council
Zoning	IN1: General Industrial

4 Site History

4.1 Site History Summary

Based on a review of available historical aerial photographs, titles and previous environmental reports, the Site has previously been used for commercial / industrial purposes with a large warehouse constructed in circa 1965, prior to sale by the Commonwealth of Australia in 1966. Based on a review of the EGSA (WSP 2021), the land was part of the St Marys Munitions Factory area. The Land Insight Resources report (WSP 2021) noted there were two (2) fire stations, however, did not list the Site as a Per- and poly-fluoroalkyl substances (PFAS) Site.

Since circa 1966, smaller warehouse buildings were removed and significant earthworks took place at the Site. A large concrete slab, believed to be the former base of the large warehouse remained and appeared to be incorporated into the storage yard in circa 2020.

The Site falls within the high potential salinity data coverage for the Department of Infrastructure, Planning and Natural Resources map of the Salinity Potential in Western Sydney (2002).

Three (3) previous environmental reports (OTEK Australia and Golder Associates) are within Council records pertaining to the Site. Site investigations, remediation and validation took place at the Site between 1996 and 1998. These three reports were not provided for review.

4.2 Previous Investigations

A list of previous investigations undertaken at the Site include:

1. Aargus Pty Ltd, Preliminary Site Investigation, 75-87 Dunheved Circuit, St Marys NSW, (ref: ES7398, dated 19.10.2018) (Aargus 2018).
2. KPMG SGA Property Consultancy Pty Ltd, Targeted Environmental Investigation, Lot 2, 65 Dunheved Circuit, St Marys, NSW, (ref: 352060, dated 03.04.2019) (KPMG 2019).
3. WSP, Environmental and Geotechnical Site Assessment, 2/65 Dunheved Circuit, St Mary's, NSW, 2760, (ref: PS123745-CLMGEO-EGSA-001 RevB-Final, dated 03.05.2021) (WSP 2021).
4. EP Risk, Preliminary Site Investigation and Targeted Soil Contamination Assessment, 75-87 Dunheved Circuit, St Marys, NSW, 2760 (ref: EP2048.001_v2, dated 25 May 2021) (EP Risk 2021a).
5. EP Risk, Air Monitoring Report, 2/65 Dunheved Circuit, St Mary's, NSW, 2760 (ref: EP2048.003_v1.0, dated 7 September 2021) (EP Risk 2021b).

A summary of the previous investigations is provided below.

4.2.1 Aargus (2018) PSI

Aargus was engaged by Law Corporation Pty Ltd to conduct a PSI to be included within the contact for sale of land for any future commercial development. An inspection was undertaken on 17 October 2018 and the Site was used by Bingo for storage of skip bins and trucks in the northern portion of the Site which was covered in a concrete slab. The remainder of the Site was vacant grass.

The site history review as part of the PSI indicated the areas of potential concern included imported fill materials, car park and driveway areas where leaks and spill from cars may have occurred, the fuel storage area, metal degradation from shipping containers and bins, potential use of pesticides, and asbestos-containing materials (ACM) from poor demolition practices.

Aargus (2018) concluded *"The contaminants that may be present were considered to be of low significance in terms of risk to the human and environmental receptors identified".* A Detailed Site Investigation (DSI) was recommended in order to determine the site suitability for future development and to address data gaps.

4.2.2 KPMG (2019) Targeted Environmental Investigation (TEI)

Fife engaged KPMG to conduct a TEI at the Site including a review of available information, a site inspection and sampling. The objective of the TEI was to assess the presence of contaminants of concern (COC) within soil, based on previous findings at the Site. KPMG progressed a total of 14 test pits across the Site to a maximum depth of 2.0 mBGL. Samples were collected and analysed for a range of CoPC. During a site walkover, a diesel aboveground storage tank (AST) was identified within a refuelling area with visible evidence of surface staining. The assessment was targeted toward uncontrolled fill and the diesel AST.

Concentrations of CoPC were generally less than the adopted ecological and human health criteria for the Site with the exception of nickel in three (3) soil samples. Asbestos was not detected within soil samples analysed and no suspected visible ACM fragments were observed on the ground surface or within the test pits during fieldwork. No staining or olfactory odours were noted in test pit TP09, progressed adjacent the diesel AST and concentrations of all COCs in a surface sample (TP09_0-0.1) were below the laboratory limit of reporting (LOR).

KPMG concluded *"Based upon the findings of the TEI, the site is not adversely affected by COCs that would preclude the use of the site for commercial/industrial purposes."*

4.2.3 WSP (2021) EGSA

WSP was engaged by Concrete Estates Ltd c/o EMKC Pty Ltd (the Purchaser) to undertake an EGSA within the southern portion of the Site (proposed Lot 2). The objective of the EGSA was to conduct an intrusive soil and groundwater investigation prior to redevelopment of the Site, and to assess the nature and extent of potentially contaminated fill materials. A supplementary objective was to provide a general indication of geotechnical conditions.

The scope of works included the progression of 15 test pits to a maximum depth of 3 mBGL, visual screening for asbestos, installation of three (3) GMWs and 2 boreholes, analysis and interpretation of soil and groundwater samples. The investigation identified fill was encountered at depths ranging from 0.2 mBGL to greater than 3.0 mBGL in the north-western portion of proposed Lot 2. Exceedances of the adopted ecological criteria were identified within soil samples within the fill, however, no chemical results in soil exceeded the adopted human health criteria for a commercial / industrial land use.

Asbestos was detected in four (4) sampling locations and following quantitative analysis, was greater than the adopted health screening level (HSL) in one (1) location based on the presence of Fibrous Asbestos (FA) and Asbestos Fines (AF). The exceedance was at a depth of 1.0 mBGL and the risk to human health from breathing fibres was considered remote. WSP reported *"the presence of asbestos in approximately 20 percent of samples analysed is of concern and warrants additional delineation testing as the sampling density to date has been limited."*

Concentrations of heavy metals greater than the adopted freshwater ecological criteria detected within groundwater samples was considered to be typical of groundwater within the underlying shale. Light non-aqueous phase liquid (LNAPL) or dense non-aqueous liquid (DNAPL) was not detected in any of the GMWs. Groundwater was encountered at approximately 2.0 to 6.0 mBGL and was inferred to flow south to an ephemeral tributary of South Creek.

Based on the findings of the assessment, WSP concluded:

> *"The site has uncharacterized asbestos contamination within the fill profile. WSP recommends that any further intrusive works associated with the development of the site should be undertaken under*

asbestos controls. WSP suggests that further investigation be undertaken to help characterize the nature and extent of asbestos in the fill profile. This will be used to inform any additional site-specific asbestos controls, the extent of asbestos controls required or eventual remediation."

4.2.4 EP Risk (2021a) PSI and Targeted Soil Contamination Assessment (TSCA)

Fife engaged EP Risk to undertake a PSI and TSCA at the Site. Based on a site walkover, review of available previous environmental reports and review of available historical information, the PSI undertaken as part of the assessment identified surficial bonded (non-friable) asbestos-containing material (ACM) in the form of fibre cement sheeting to the south and uncontrolled filling west of the tenanted area which was an Area of Environmental Concern (AEC). The AEC was anticipated to be approximately 11,000 m^2. EP Risk was subsequently engaged to conduct a TSCA within the AEC.

EP Risk progressed a total of 44 test pits to a maximum depth of 2.3 m below ground level (mBGL).

Proposed Lot 1

The findings of the intrusive investigation are presented below:

- Concentrations of CoPC within soil within the AEC, in addition to the previous environmental assessments was not shown to preclude the ongoing commercial / industrial land use.
- ACM was not visually identified within surficial soils (top 10cm) within the AEC in Proposed Lot 1.
- Field screening and % w/w calculations, using the mass provided by the laboratory, reported concentrations of bonded (non-friable) ACM (> 7 mm) less than the adopted Health Screening Level HSL (0.05% w/w) within proposed Lot 1.
- Asbestos Fines (AF) / Fibrous Asbestos (FA) were less than the adopted HSL (0.001 % w/w) within proposed Lot 1. Trace (respirable) asbestos analysis (free fibres) were not detected within the soil samples analysed.

Following subdivision there is no evidence to preclude the ongoing commercial / industrial land use within proposed Lot 1.

Proposed Lot 2

The findings of the assessment can be summarised as follows:

- CoPC in soil samples analysed were less than adopted human health and ecological criteria with the exception of one (1) duplicate soil sample which exceeded the ecological criteria for copper.
- Asbestos was identified on the soil surface within proposed Lot 2 and within shallow soils in ten (10) of the 34 test pit locations.
- Field screening and w/w calculations, using the mass provided by the laboratory, reported concentrations of bonded (non-friable) ACM (> 7 mm) greater than the adopted Health Screening Level (HSL) (0.05% w/w), within three (3) samples locations within proposed Lot 2.
- Asbestos Fines (AF) / Fibrous Asbestos (FA) were detected within three (3) samples at concentrations greater than the adopted HSL (0.001 % w/w) within proposed Lot 2. Trace (respirable) asbestos analysis (free fibres) were not detected within the soil samples analysed.

The findings of the intrusive investigation are presented below:

- Concentrations of chemical CoPC within soil within the AEC, in addition to the previous environmental assessments was not shown to preclude the ongoing commercial / industrial land use.
- Concentrations of asbestos in soil (ASBINS) identified within the proposed Lot 2 were greater than the HSL and there is a risk to human health for site users and intrusive maintenance workers from asbestos.

Overall, based on the data from the TSCA and the findings of previous environmental reports, and subject to the limitations of the investigation, EP Risk (2021a) considered that Lot 2 can be made suitable for the proposed commercial/industrial land through the implementation of an asbestos management plan (AMP) or RAP.

Based on the proposed redevelopment of proposed Lot 2 into a warehouse, the Site is to be covered in concrete hardstand and the importation of engineered fill for levelling / compaction purposes, which would be a suitable management strategy to address the asbestos impact and make the Site suitable for the proposed development, in conjunction with an AMP to mitigate potential exposure to asbestos by future site users / maintenance workers.

Based on the findings of the Assessment, EP Risk (2021a) recommended the following:

- Where any on-site material requires disposal, these should be assessed in accordance with NSW EPA, *Waste Classification Guidelines, Part 1: Classifying Waste* (2014).
- An AMP is prepared for proposed Lot 2 to manage the risk to current and future site users and maintenance workers.
- An Unexpected Finds Procedure is implemented during future development and/or excavation activities across the Site.

4.2.5 Site coverage

Sampling density and results for proposed Lot 2 have been summarized in **Table 2** below:

Table 2 – Sampling density

Assessment	Number of Investigation Locations	Primary Soil Samples	Groundwater Samples
KPMG (2019)	9	9	0
WSP (2021)	20	19	3
EP Risk (2021a)	34	8	0
Total	**63**	**36**	**3**

NSW EPA (1995) require a minimum of 30 sampling points for a site of 2 hectares. The WA DOH (2021) recommend double density for a site of known asbestos contamination. From Table 2 and a review of the available reports, it can be concluded that the combined investigation effort is appropriate to characterise the Site. Appropriate site coverage has been achieved.

5 Site Condition and Surrounding Environment

The following information is summarised from the PSI (EP Risk 2021a). Note that this includes a summary of site conditions for both proposed Lots 1 and 2.

5.1 Site Description

During the Site inspection and sampling undertake by EP Risk, the following Site conditions and structures were noted:

- Jaybro tenanted the northern portion of the Site (proposed Lot 1) at the time of the assessment and were using the Site as a storage yard for commercial products.
- The tenanted area was covered with concrete hardstand and exposed road base gravels and aggregates at the entrance and rear of the storage yard.
- A diesel aboveground storage tank (AST) with a volume of approximately 5,000 L was located near the entrance to the property and was on concrete hardstand. Minor surface staining was present underneath the attached bowser. The containerised AST was suspected to have in-built secondary containment for spills.
- Minor quantities of Liquefied Petroleum Gas (LPG) cylinders were stored within a cage and used for forklifts.
- Portable site offices were located adjacent the entrance to the Site.
- Two (2) 1,000L portable water containers on pallets were identified in a grassed area with unknown contents. No staining was visible surrounding the containers.
- The southern and western portions of the Site were covered with exposed soil and grass cover with minor scattered vegetation.
- Minor quantities of stored products were located on the grassed surface south of the tenanted area at the time of the inspection. These were noted to have been removed in later inspections.
- Three (3) groundwater monitoring wells (GMWs) were noted within the south-eastern portion of the Site within the grassed area.
- Large concrete boulders, bricks, tiles, and suspected bonded (non-friable) asbestos-containing material (ACM) was identified within the grassed area immediately to the south of the tenanted area (within proposed Lot 2).
- There was evidence of test pitting works which had been recently undertaken at the Site during the inspection. Three (3) large test pits and surrounding stockpiled soil were present in the grassed area south of the tenanted area (proposed Lot 2). FILL material was present within the test pits and stockpiles and bonded (non-friable) ACM in the form of fibre cement fragments was also identified within this material. FILL was descried as sandy gravelly clay, yellow to brown, slightly moist, angular to sub-angular gravels with anthropogenic inclusions (glass, tiles, bonded (non-friable) ACM, bricks, concrete and plastic).
- FILL within the area surrounding the tenanted area (south and west) appeared to have been disturbed and was raised relative to surrounding areas of the Site indicating uncontrolled filling had occurred.

A subsequent Site inspection was undertaken to determine the potential extent of surface bonded (non-friable) ACM across the grassed areas. Based on the inspection, suspected bonded (non-friable) ACM in the form of fibre

cement sheet fragments were observed on the soil surface immediately south of the tenanted area only. Suspected bonded (non-friable) ACM was not identified along the southern and western site boundary during the inspection.

5.2 Proposed Development

Based on information provided by Fife the proposed development on proposed Lot 2 is understood to comprise the following:

- Construction of a warehouse, underground OSD Tank, office (2 levels) and outdoor parking area for 53 cars.
- The majority of the outdoor area will be covered with heavy duty pavement and light duty pavement.
- A small, landscaped area on the south-western boundary.

A proposed site plan is provided within **Appendix A** of this report.

5.3 Surrounding Land Use

Based on details provided within EP Risk (2021a), the Site is predominantly surrounded by commercial / industrial buildings, a golf course and residential properties. The surrounding land uses comprised the following:

To the North

- Resource recovery centre;
- Large warehouse buildings;
- Commercial / industrial lots;
- Water treatment Site; and
- South Creek and Ropes Creek (approximately 1 km to 1.5 km).

To the South

- Unnamed access road;
- Commercial / industrial properties; and
- South Creek (approximately 400 m south).

To the East

- Commercial / industrial properties;
- Forrester Road; and
- Mixed commercial and residential properties beyond.

To the West

- Links Road;
- Dunheved Gold Course;

- South Creek (approximately 300 m west); and
- Mixed commercial and residential properties beyond.

5.4 Topography and Drainage

The Site has an approximate elevation between 23m to 26 m Australian Height Datum (m AHD) and slopes gradually from Dunheved Circuit to the east, to the western portion of the Site.

Surface water was anticipated to flow southwest across exposed surfaces of the Site. The nearest surface water body was an unnamed creek immediately south-west of the Site which is understood to flow into dams of the golf course west of the Site. The golf course dams are inferred to flow into South Creek which flows to the north towards the Hawkesbury River (approximately 17 km north).

5.5 Geology

A review of the Penrith 1:100,000 Geological map (Series 9030, Edition1, 1983) indicated the Site was underlain by Tertiary period Londonderry Clay and Quaternary period fluvial overbank deposits, as detailed below:

- Londonderry Clay: Clay, patches of ferruginized, consolidated sand; and
- Fluvial: Fine-grained sand, silt and clay.

The natural underlying geology identified within previous assessments was identified as containing red/orange to black silty CLAY, sandy CLAY and CLAY (WSP 2021). Underlying natural conditions were consistent with that identified as part of this assessment.

5.6 Hydrogeology

There was a total of three (3) groundwater monitoring wells (GMWs) located within the southern portion of the Site (proposed Lot 2). The GMWs were installed by WSP (WSP 2021). Groundwater was identified at approximately 2 to 5 mBGL (21.8 to 24.3 m AHD) and was anticipated to flow south towards the unnamed creek immediately south of the Site. It should be noted the GMWs were not surveyed as part of the assessment (WSP 2021).

5.7 Acid Sulfate Soil

A review of the CSIRO's Australian Soil Resource Information System (ASRIS) database indicated there is a low probability of acid sulfate soil on-site (EP Risk 2021a).

5.8 Salinity

According to the Department of Infrastructure, Planning and Natural Resources map of the Salinity Potential in Western Sydney (2002), the Site falls in an area of high potential for salinity.

Salinity and durability aspects have been addressed by WSP. WSP (2021) included a Geotechnical Interpretive Report in Appendix H in their report.

EP Risk does not consider salinity a contaminated land issue and will therefore not further discussed in the RAP.

6 Conceptual Site Model

Based on the outcomes of the various assessments (WSP 2021 and EP Risk 2021a), the potential complete source pathway receptor linkages are:

- ASBINS identified within FILL material at the majority of the site with the highest w/w concentrations along the northern boundary of the proposed Lot 2. FILL has been observed at depths between 0 to >3mBGL. This poses a current and future potential risk to human health without management and/or remediation. It is noted that other contaminants have not been detected above adopted health based investigation levels. Based on the variability in concentrations of most Heavy Metals, it can be concluded that FILL material must have been imported to Site from various unknown sources.
- There is the potential for impacted groundwater to have migrated on-site from off-site upgradient industrial sources which may pose future human health risk if the Site is redeveloped and intersects groundwater. However, this is considered to be unlikely based on the proposed redevelopment of proposed Lot 2.

Therefore, the Site presents a moderate risk to future users of the Site under the current and proposed commercial/industrial land use without remediation and/or management.

Based on the proposed redevelopment of the Site into a warehouse with the majority of the Site covered in concrete hardstand and the importation of fill for levelling / compaction purposes, if ASBINS is managed during construction activities, the risk to site users would be negligible subject to the implementation of a Long Term Environmental Management Plan (LTEMP).

7 Legislative and Regulatory Framework

7.1 Environmental Planning and Assessment Act 1979

The EP&A Act regulates development in NSW and incorporates the principles of Ecologically Sustainable Development through the Environmental Planning and Assessment Regulation 2000 ('EP&A Regulation').

Changes to the Act

Part 3A of the EP&A Act was repealed and replaced by the Environmental Planning and Assessment Amendment (Part 3A Repeal) Act 2011. The complementary planning policy has also been revised to the State Environmental Planning Policy (State and Regional Development) 2011.

In accordance with Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011, Remediation of Contaminated Land is considered State Significant Development if it is classified as Category 1 Remediation Work on 'significantly contaminated land' and remediation is required under the CLM Act.

The Site has not been declared under the CLM Act as significantly contaminated land and therefore is considered not to fall under Category 1 Remediation Work under the EP&A Act.

State Environmental Protection Policy (SEPP) 55 – Remediation of Land and Sydney Regional Environmental Plan (SREP) No 20

State Environmental Planning Policy – Remediation of Land ('SEPP 55') under the EP&A Act provides a framework for contaminated land remediation.

Remediation work which requires development consent is known as Category 1 work. Category 1 refers to work:

- Categorised as designated development under Schedule 3 of the EP&A Regulation or under a planning instrument.
- Proposed on land identified as critical habitat under the Threatened Species Conservation Act 1995.
- Where consideration of section 5A of the EP&A Act indicates the remediation work is likely to have a significant effect on threatened species, populations, ecological communities or their habitats.
- Proposed in an area or zone identified in a planning instrument as being an area of environmental significance such as scenic areas, wetlands. These are listed in the SEPPs.
- Requires consent under another SEPP or a regional environmental plan.

All other remediation work is classified as Category 2 work and may be carried out without development consent. The local council must be notified at least 30 days prior to the commencement of Category 2 remedial works. Based on the works identified for the Proposed Development, the remediation works do not fall into any of the Category 1 classifications by definition of SEPP 55.

However, under the SREP20 (prepared under the EP&A Act) Part 3, Condition 11 (4) Remediation of Land, consent is required. The SREP20 prevails above the SEPP55 (refer to condition Part 4, conditions 12 (3)) even though the SREP20 has been prepared before the SEPP55.

Therefore, the remediation works are considered Category 1 works and Council consent is required.

7.2 Protection of the Environment Operations Act 1997

7.2.1 Environment Protection Licence

Under Section 48 of the POEO Act, an Environment Protection Licence ('EPL') is required if the activity undertaken is listed in Schedule 1. The POEO Act also defines 'waste' for regulatory purposes.

Contaminated soil treatment is declared to be a scheduled activity requiring a licence if:

- In any case, it has the capacity to treat more than 1,000 cubic metres ('m^3') per year of contaminated soil received from off-site, or
- Where it treats contaminated soil originating exclusively on-site, it has a capacity:
    - to incinerate more than 1,000 m^3 per year of contaminated soil, or
    - to treat (otherwise than by incineration) and store more than 30,000 m^3 of contaminated soil, or
    - to disturb more than an aggregate area of 3 ha of contaminated soil.

The remediation works for the Proposed Development do not fall unto the above categories and therefore do not require an EPL under the POEO Act.

7.3 Contaminated Land Management Act 1997

The CLM Act establishes a process for the investigation and remediation of land that is contaminated where the contamination is considered significant enough to warrant regulation. Where the NSW EPA decides to regulate land it can be declared 'Significantly Contaminated Land'.

Under Section 60 of the CLM Act, a person whose activities have contaminated land or a landowner whose land has been contaminated is required to notify the NSW EPA when they become aware of the contamination.

Under Section 105 of the CLM Act, the NSW EPA has the authority to make or approve guidelines which must be taken into consideration by the NSW EPA, accredited site auditors and contaminated land consultants. The NSW EPA has created the following guideline to assist landowners and persons who have the responsibility to report Contamination under the CLM Act:

- NSW EPA (2015) Guidelines on the Duty to Report Contamination under the *Contaminated Land Management Act 1997*.

7.3.1 Duty to Report

The results of analytical testing undertaken in the previous investigations (WSP 2021 and EP Risk 2021a) were compared to the Duty to Report Guideline (EPA 2015) to determine whether Fife has any obligations under s60 of the CLM Act to notify the NSW EPA. EPA 2015 requires notification if friable asbestos is present in concentrations above the screening level of 0.001 % w/w and when a person has been, or foreseeably will be exposed to elevated asbestos fibres (>0.01 fibres/mL) by breathing them into their lungs.

WSP detected friable asbestos at one location at a depth of 1mBGL and concluded there was no duty to report the contamination as there was no immediate health risk. WSP recommended re-evaluation in light of future asbestos delineation testing.

EP Risk detected friable asbestos in three locations above the health screening level at depths of 0.2mBGL. To address exposure to elevated asbestos fibres to site visitors/trespassers, EP Risk collected one round of air monitoring data. Results indicated levels of asbestos fibres were below limited of reporting. The report has been included in **Appendix C**.

Based on the above it can be concluded that there is currently no requirement to notify the NSW EPA under the Duty to Report Guideline (EPA 2015). However, the duty to report contamination should be reassessed after completion of the remediation.

7.4 Work Health and Safety Regulation 2017

The works will be undertaken in accordance with the requirements of the Model Work Health and Safety ('WHS') Regulation 2017.

A SafeWork NSW Class A (friable) Licenced Asbestos Removal Contractor (ARC) will be engaged by the person conducting a business or undertaking (PCBU) for the soil remediation/removal works.

A qualified Occupational Hygienist will be present to supervise the works (where required).

7.4.1 How to Safely Remove Asbestos Code of Practice (2019)

The works undertaken will be undertaken in accordance the SafeWork NSW *Code of Practice: How to Safely Remove Asbestos* (2019 (SafeWork NSW 2019).

The How to Safely Remove Asbestos Code of Practice (2016) was developed to provide practical guidance for persons conducting a business or undertaking who have duties under the WHS Act and WHS Regulation to safely remove asbestos from workplaces where asbestos may be found including structures, plant and soil. The code of practice provides information and guidance pertaining to removal techniques, control measures and personal protective equipment ('PPE').

7.4.2 How to Manage and Control Asbestos in the Workplace (2019)

The works undertaken will be undertaken in accordance the SafeWork NSW *Code of Practice: How to Manage and Control Asbestos in the Workplace* (2019 (SafeWork NSW 2019a).
This model Code of Practice has been developed to provide practical guidance for persons conducting a business or undertaking on how to manage risks associated with asbestos and ACM at the workplace. This code provides information on how to identify the presence of asbestos at the workplace and how to implement measures to eliminate or minimise the risk of exposure to airborne asbestos fibres.

7.5 Protection of the Environment Operations (Waste) Regulation 2014

All material that requires disposal offsite must be classified in accordance with the NSW EPA Waste Classification Guidelines: *Part 1 Classifying Waste* (2014) prior to disposal.

The regulations make requirements relating to non-licensed waste activities and waste transporting. Part 7 Section 78 of the Regulation stipulates special transportation, re-use or recycling requirements relating to asbestos waste and must be complied with regardless, whether the activity is licensed.

The requirements for the transportation of asbestos waste include:

- Bonded asbestos material must be securely packaged at all times;
- Friable asbestos material must be kept in a sealed container;
- Asbestos-contaminated soils must be wetted down (unless it is packed in a sealed container; and
- All asbestos waste must be transported in a covered, leak-proof vehicle.

Part 7 Section 79 of the regulation stipulates reporting on transportation of asbestos waste solely in NSW and applies to the transportation of asbestos waste as defined in Schedule 1 Part 3 of the POEO Act. The transporter

of a load of asbestos waste must give the following information to the EPA (in the prescribed form and manner) before the transportation of the load commences:

The address of the site at which the asbestos waste has been generated (by its removal from the site), if known to the transporter;

- The name, address and contact details of the premises from which the load is proposed to be transported;
- The date on which it is proposed that the transportation commence;
- The name, address and contact details of the premises to which the waste is proposed to be
- transported;
- The approximate weight (in kilograms (kg)) of each class of asbestos waste in the load (rounded to the nearest kg and, if the amount to be rounded is 0.5 kg, rounded up); and
- Any other information specified in the Asbestos and Waste Tyres Guidelines.

Section 80 of the regulations relates to the disposal of asbestos waste and indicates the following:

- A person disposing of asbestos waste off the site at which it is generated must do so at a landfill site that can lawfully receive the waste;
- 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
- When a person unloads or disposes of asbestos waste at a landfill site, the person must
- prevent:
    - any dust being generated from the waste, and
    - any dust in the waste from being stirred up.

Section 81 of the regulations stipulates a person must not cause or permit asbestos waste in any form to be re-used or recycled. Provision is provided in the Regulation and recent EPA (2014) guidelines for the NSW EPA to approve the immobilisation of contaminants in waste (if required with unexpected finds).

8 Remediation Objectives, Extent and Options

8.1 Remediation Objectives

With reference to the NSW EPA Auditor Guidelines (2017), the ASC NEPM 2013 and the WA-DOH 2021 the remediation objectives were established as follows:

- Minimise the human health risk to site users and workers posed by the identification of AF/FA impacted soil during (and following) development works at the Site.
- Minimisation of:
    - Contaminated soil disturbance,
    - Contaminated soil disposed to landfill, and
    - Risks associated with transportation of contaminated soils.
- To suitably remediate surficial ASBINS. Remedial works must not obstruct the long-term management of the Site which will be addressed under a separate cover LTEMP.
- Perform remedial works in accordance with applicable standards.
- Validate the remediation works in accordance with the relevant guidelines.
- Document the validation process.

8.2 Remedial Extent

The remediation extent is based on the findings and conclusions of the KPMG 2019, WSP 2021 and EP Risk 2021a reports. FILL material contaminated with asbestos has been observed over the Site (proposed Lot 2) to a depth ranging between 0 to >3mBGL.

8.3 Remedial Options and Appraisal

Remediation and/or management of the impacted soil is required so that the Site does not pose an unacceptable risk to human and ecological health with respect to the proposed industrial/commercial land use. Remedial options that may achieve the remedial objectives for the Proposed Development are listed in the following order in Section 6 (16) of Schedules A and B of the ASC NEPM 2013:

- *On-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and*
- *Off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or*

If the above are not practicable:

- *Consolidation and isolation of the soil on site by containment with a properly designed barrier; and*
- *Removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material; or*
- *Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.*

In order to determine the optimal remediation strategy in accordance with the hierarchy above, the following remedial options that may achieve the remedial objectives include:

- Do nothing.
- On-site treatment utilising in-situ stabilisation / immobilisation.
- Source removal (soil) for disposal off-site to a licensed disposal facility and/or ex-situ treatment.
- Isolation on site by engineered barrier containment.

A summary of these options, including an assessment of the advantages and disadvantages and overall feasibility in relation to the Proposed Development is present in **Table 3.**

Table 3 – Remedial Options Appraisal

Option	Targeted Media	Strategy	Advantages	Disadvantages	Project Feasibility
Do Nothing	Soil	No action	Little to no remediation costs. Creates minimal disturbance to the Site. Retains material on-site.	Contamination remains on-site. Ongoing management required (LTEMP). Permanent closure of portions of the Site.	Not feasible in light of proposed development and future land-use and the identified human health risks on-site.
On-site treatment	Soil	On-site screening and validation	LTEMP might not be required. Asbestos hazard is eliminated.	Screening of soils contaminated with friable asbestos should be avoided. Suitable for Sandy soils. FILL material onsite has been described as sandy gravelly CLAY. Significant Dust Management and Air Quality Control measures required.	Not feasible due to the composition of the FILL material and the presence of AF/FA asbestos.
Excavation/source removal	Soil	Source Removal	Removes potential future liability. Mitigates exposure pathways to Site users and occupiers of adjacent land.	Soil requires waste classification for appropriate off-site disposal. Not environmentally sustainable with excessive use of landfill space and a large carbon footprint. Potential to generate odours and dust. High remediation cost.	Not economically viable based on the extent of asbestos impacted FILL at the Site (potentially up to 96,000 tonnes).

Table 3 – Remedial Options Appraisal

Option	Targeted Media	Strategy	Advantages	Disadvantages	Project Feasibility
Isolation of the Site by capping	Soil	Installation of an impermeable barrier across the source of CoPC exposure (FILL material)	Effectively removes exposure pathways. Mitigates exposure pathways to Site users. Reduced cost of remediation by removing off-site disposal of ASBINS.	Cost to install the barrier. CoPC remaining on-site must be captured under a LTEMP with ongoing inspection requirements. Controls required in accordance with relevant guidelines for future excavation works.	Feasible, since the proposed development consists of a concrete slab across the majority of the Site which will act as an impermeable barrier. A layer 0.5m of soils with contamination levels below the adopted site criteria should be used to cap the proposed landscape areas.
Long-term environmental management	Soil	Implementation of a management strategy incorporating ongoing monitoring and appropriate construction and safety protocols	Addresses long-term risks of CoPC remaining on-site without extensive remediation requirements. Mitigates risks of CoPC remaining on-site through implementation of safety protocols	CoPC remain on-site for the foreseeable future. On-going monitoring, maintenance and record-keeping is required. Controls required in accordance with relevant guidelines for future excavation works.	Feasible and required. As on-site treatment and complete source removal is not considered feasible, a LTEMP will be required for the Site.

A Site plan showing the proposed location of buildings and concrete slabs are provided in **Appendix A**. EP Risk notes that these were provided by Fife.

Slab construction details and location of underground service trenches should be provided as part of the RWMS. It is understood further detailed plans would be provided within the RWMS during the DA for Proposed Lot 2.

8.4 Preferred Remedial Strategy

The preferred remedial strategy selected must be the most cost-effective solution, which does not bring about unacceptable long-term liabilities, and which does not impose unreasonable constraints on future site developments or present operations. The strategy must also be capable of achieving the technical, environmental, sustainable and economic objectives of the overall project.

In view of the Remedial Options Appraisal (**Table 3**), of the options assessed, the most favourable remedial strategy for the ASBINS is the capping of fill material on-site through installation of a concrete slab which will act as an impermeable barrier, and the implementation of a LTEMP. The proposed site cover (refer to **Figure 3** in **Appendix A**) will be as following:

- Approximately total building area of 5,300 m^2 concrete slab covered area.
- Approximately 9,970 m^2 heavy duty pavement.
- Approximately 1,820 m^2 light duty pavement.
- Approximately 2,600 m^2 future warehouse, awnings and OSD.
- Approximately 500 m^2 landscaped area on the western boundary.

Some excavation and consolidation of soils will be required for levelling (cut&fill), installation of services and piling (if required). The excavation methodology for these works will be detailed in the RWMS and will either be onsite re-use or offsite disposal. Proposed areas not covered by a slab (i.e. landscaped areas) will require demarcation with a geofabric marker layer and containment by a clean surface layer of minimum 0.5m thickness.

Additional details on slab thickness, depth of underground services etc will be provided in the RWMS.

9 Remediation Strategy Scope

The scope of work associated with the preferred remedial strategy can be broken down into the following stages:

7. Assigning roles and responsibilities.
8. Preparation of WHS documents, construction environment management plan (CEMP) regulatory approval, licensing and notifications. EP Risk notes that the excavation works should be undertaken under supervision by a SafeWork NSW Class A (friable) Licenced Asbestos Removal Contractor (ARC).
9. Site establishment.
10. Remediation and associated tasks
    e) Asbestos Air Monitoring
    f) Excavation and Capping Works
    g) Additional in-situ waste classification sampling (if required)
    h) Importation of clean ENM/VENM (if required)
11. Validation.
12. Contingency Plan.

9.1 Assigning Roles and Responsibilities

For the purposes of the remedial work the roles and responsibilities are presented in **Table 4**.

Table 4 – Roles and Responsibilities

Role	Party	Responsibilities
Principal/Owner	TBC	To engage the consultants and contractors.
Project Management	TBC	Undertake all stakeholder management.
Site Auditor	TBC	Based on the generic nature of the remediation works, EP Risk believes that the engagement of a NSW EPA Accredited Site Auditor will not be required. Approve remediation approach. Review and comment on remediation approach, validation reports and other relevant documents.

Validation Consultant / Licensed Asbestos Assessor (LAA)	TBC	Ensuring the contractor engaged holds a current SafeWork NSW Class A Asbestos Removal License. A Certified Environmental Practitioner – Site Contamination specialist (CEnvP-SC) should be engaged to oversee implementation of the RAP. Inspect site conditions and undertake monitoring and supervision during the works. Attend Site to conduct a visual asbestos clearance inspection within the Work Area. Provide confirmation and reports, including Clearance Certificates, that works have been completed to a satisfactory standard. In-situ waste classification sampling of fill material required for off-site disposal (if required). Manage unexpected findings. To prepare a validation report.
Remediation Contractor (Class A)	TBC	• Ensuring a copy of the work health and safety plan is available at the site during the remediation/validation activities. • Submitting a SafeWork NSW Class A (friable) asbestos removal notification to SafeWork NSW (minimum 5 days). • Developing an Asbestos Removal Control Plan (ARCP) prior to the commencement of works as detailed within SafeWork 2019. • Ensure all individuals are inducted to the Site, this document and the ARCP and other relevant documents. • Confirming individuals are competent/trained in performing allotted tasks. • Notify all parties and stakeholders (e.g. landowners, site users and regulators) in accordance with the relevant guidelines. • Liaising with the contractor representatives, as appropriate, regarding safety matters. • Investigation and reporting of incidents and accidents (where required). • Notification to the Principal/PCBU in the event site conditions or remedial scope change. • Manage unexpected finds: o Notifying the Client and Environmental Consultant of any unexpected finds. o Undertaking the assessment, remediation and validation of an unexpected find. • Investigation and reporting of incidents and accidents (where required).
Building Contractor	TBC	Installation of the concrete slab.

9.2 Preparation of Management Plans, Regulatory Approvals and Licensing

Safety and environmental management documentation must be finalised with staff and any other relevant stakeholders. The likely documentation required includes:

- All regulatory and landowner approvals and notifications.
- Up to date insurance certificates.
- WHS documentation detailing safe work methods to be adhered to during civil works. Emergency response procedures should also be included.
- Construction environmental management plan (CEMP) detailing how the environment will be protected during the civil works.

An initial summary of environmental and safety management requirements is provided as **Section 11** and **Section 12** respectively.

9.3 Site Establishment

Following approval of all the required documentation and notification to SafeWork, the contractor can mobilise all plant, equipment and amenities as required to complete the remedial works.

All safety and environmental controls are to be implemented at the first stage of remediation works. Theses controls include:

- Community consultation
- Demarcation of remediation areas and creation of required exclusion zones
- Site signage and contact numbers; and
- Dust suppression and controls

9.4 Remediation and Associated Tasks

9.4.1 Asbestos Air Monitoring

For the duration of the excavation works and installation of a geofabric marker layer, control asbestos fibre air monitoring will be undertaken around the perimeter of the site (and / or specific remediation areas). Control monitoring is air monitoring using static or positional samples to measure the levels of airborne asbestos fibres in the work area and assists in assessing the effectiveness of implemented control measures.

Asbestos air monitoring locations should be positioned outside the exclusion zone (i.e. the exclusion zone perimeter), the location and number of monitoring locations will be determined daily by the appointed LAA based on prevailing weather conditions and location of works being undertaken.

Clearance air monitoring is required following all friable removal works, to provide clearance and allow workers to re-enter a previously contaminated zone without full asbestos personal protective equipment, in accordance with Section 3.11 of SafeWork NSW (2019).

9.4.2 Excavation and Capping Works

The proposed landscaped area covers an approximate 500 m^2 area (construction drawings are provided within **Appendix A**). Based on the absence of an impermeable barrier layer within the open landscaped areas, a minimum 0.5 m cover is required above any asbestos impacted fill material which will remain on-site under the LTEMP.

Consequently, asbestos impacted soil might have to be removed to 0.5 m below finished levels (depending on cut & fill plan) prior to laying of a high visibility geofabric demarcation layer.

Minor quantities of fill material are anticipated to require excavation and off-site disposal or onsite containment for the installation of underground services and piling.

Excavation and capping requirements are outlined within **Table 5** below.

Table 5 – Excavation and Capping requirement

AoC	Excavation	Capping
Proposed building slab	Minimal excavation may be required for Site levelling.	Installation of: • High visibility geotextile marker layer over contaminated fill; • Concrete slab – details to be provided in the RWMS
Landscaped areas	Excavation of asbestos impacted fill material to 500 mm below finished levels.	Installation of: • High visibility geotextile marker layer over contaminated fill; • Approximately 0.5 m of ENM /VENM; and • A nominal amount of clean imported topsoil / growing medium for proposed landscaping. • Details to be provided in the RWMS
New pavements including footpaths and car park areas	Minimal excavation may be required for leveling.	Installation of: • High visibility geotextile marker layer over contaminated fill; • Concrete slab – details to be provided in the RWMS
Service trenches	Excavation of service trenches marginally below the design level and greater than the required conduit width, should be conducted prior to laying of the high visibility geofabric marker layer.	Installation of: • High visibility geotextile marker layer over contaminated fill – this must be secured to the adjoining geotextile marker (approx. 1m overlap, and use of soil 'U' nails for securing material); • Service trenches to be backfilled with clean imported material; • A wider service trench might be installed to accommodate future services.

9.4.3 Additional In-Situ Waste Classification Sampling

Prior to off-site disposal of soil or other materials from the Site, a waste classification letter is to be prepared in accordance with NSW EPA 2014 and provided to the receiving landfill for acceptance. EP Risk notes that it is an expectation from the NSW EPA that historical analytical data should be considered in the final waste classification report.

9.4.4 Importation of ENM / VENM

The importation of clean (validated) ENM / VENM is required for capping of the landscaped areas. A 0.5 m cover is required over the instated geotextile marker layer for capping of in-situ asbestos impacted soils in accordance with WA DoH (2021).

Requirements for validation of import material is outlined within **Section 10** of this report.

9.5 Validation Reporting

At the completion of the remedial works a Validation Report should be prepared in accordance with the requirements of the NSW EPA (2020) *Consultants Reporting on Contaminated Land – Contaminated Land Guidelines*, including:

- A clear definition of the sampling and analysis completed.
- A clear definition of the contamination assessment criteria.
- Figures displaying sampling locations.
- Analytical summary tables comparing results to assessment criteria.
- Field records (e.g. sampling logs, field instrument calibration records and photographs).
- Chain of custody documentation and laboratory analytical reports.
- An assessment of data reliability.
- A discussion of the field observations, analytical results and groundwater trends.
- Recommendations for any changes to future monitoring scope or procedures.

A detailed summary of required validation sampling during fill importation is outlined within **Section 10** of this report.

9.6 Long-Term Environmental Management Plan (LTEMP)

An LTEMP is to be provided as a working document for the Site as soon as reasonably practicable.

As a minimum the LTEMP must include the following items:

- Periodic inspection of the impermeable capping layer (concrete slab) and associated structures.
- Management strategies required during any proposed intrusive excavation / construction works at the Site.
    - This should include the management procedures for the in-situ asbestos impacted soils remaining on-site.

Should the proposed land use of the Site be altered at any point that is not encompassed under the scope of the RAP or LTEMP, a review and assessment of remediation and management procedures is required.

The LTEMP requires to be legally enforceable registered on Title. This will be achieved by the following:

- Placement of a public positive covenant on the land under Section 88D or 88E of the Conveyancing Act 1919 by Local Council, with Landowner consent, enables public notification and legal enforcement of the LTEMP. A land covenant on title raises awareness of an existing EMP on the land to potential purchases, detailing the obligations for the land and assisting in legal enforcement. The authority executing the covenant (and therefore the LTEMP requirements), can enforce its requirements though the Supreme Court, either through corrective actions or active actions and cost recovery.

- Reference to the LTEMP will be added to the planning certificate by Penrith City Council enabling notification under Section 10.7(5) of the EP&A Act. While addition to the planning certificate provides further public notification to Land Covenants, its standalone notification does not make the LTEMP legally enforceable.
- Council will be responsible for enforcing compliance with the LTEMP.

9.7 Contingency Plan

The following contingences presented in **Table 6** should be considered for unexpected finds and issues:

Table 6 – Remediation Contingency Plan

Anticipated Issues	Actions
Surplus fill material requiring off-site disposal	Any materials to be disposed of off-Site must be classified in accordance with the NSW EPA 2014, for off-site disposal to a waste management facility lawfully permitted to accept the materials.
Additional contamination sources including other co-contaminants that have not previously been identified.	Undertake characterisation sampling to determine suitability to retain on-site or off-site disposal.
Criteria failure of imported material	Where material to be imported onto Site does not meet criteria outlined within **Section 10,** material should not be imported. Alternative material must be sourced that meets importation requirements. If accidently material has been imported that does not meet the ENM or VENM criteria, this material will then need to be excavated and removed from the site
Heavy rain or flooding	Construct sediment and surface water controls prior to commencing works.
Failure of management practices	Investigation into root cause and update management practices accordingly.
Emissions complaints (noise, odour, vibration, dust, etc.)	Monitoring of emissions during works (asbestos). Use water sprays to suppress the dust or stop site activities generating the noise, odour, vibration, dust, etc until it abates.
Changes in future land use for the Site	Should the proposed land use change then the RAP should be revised to ensure that the adopted remedial option is suitable for the intended use.
Unexpected Finds	Implementation of an unexpected finds protocol ('UFP'). EP Risk's unexpected finds protocol is contained in **Appendix B**.
Delay of proposed development	In the event the proposed development of proposed Lot 2 will not be undertaken within a reasonable timeframe (1 year), an Interim Asbestos Management Plan (IAMP) should then be prepared to manage the contamination The objective of the IAMP is to prepare a practical, yet provisional plan to manage the identified hazardous materials and risks on the Site, so no risk exists to occupants, maintenance personnel or neighbouring properties, prior to site re-development or remediation.

10 Validation Plan

Validation is required to demonstrate that remedial measures described in the RAP have been successful and that the Site is suitable for the intended land use.

Surveying and visual inspection of the engineered capping is required in conjunction with physical validation (sampling) of imported materials. Sampling of imported materials is required for any material imported to Site throughout the remediation process and to the point that the Site validation report is prepared. The sampling program required for validation is outlined in **Table 7** and is the minimum requirement based on the above remedial scope. Additional validation sampling may be required based on observations made during remediation or in the event of an unexpected find.

10.1 Validation Assessment Criteria

In order to develop appropriate validation assessment criteria ('VAC') to address the objectives of the remediation, consideration was given to the latest screening criteria made available or approved by NSW EPA.

Tier 1 Site assessment criteria will be adopted as the VAC for CoPC defined within **Table 7** and detailed engineered drawings will be consulted where validation of capping is required. VAC is outlined as follows:

10.1.1 Validation of Capping

Validation of capping will occur via a review of survey information and as- built drawings and via the inspection process as outlined within **Table 7**. The validation report must include cross sections documenting the completed capping details for various areas of the Site, including:

- Details of the concrete barrier within the slab covered area.
- Site plans including piling structures and service trenched associated with the construction of the slab.
- Survey details of the landscaped area including volume of exported and imported material and finished levels. The first 0.5m of material within landscaped areas should be asbestos free.

10.1.2 Imported materials

Material imported as general fill must meet the requirements of VENM / ENM. Topsoil should be provided with an appropriate certificate.

10.2 Data Quality Objectives

To assess whether an appropriate validation sampling strategy was adopted, EP Risk adopted the data quality objectives ('DQOs') planning process as:

- Recommended in the ASC NEPM 2013.
- Required within the NSW EPA Site Auditor Guidelines (2017).

Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs) should be clearly outlined and assessed as part of the validation process.

DQO's have been broadly established for the validation with regards to the seven-step process outlined within the NEPM:

- State the Problem;
- Identify the decisions / goals of the study;

- Identify inputs to the decision;
- Define the study boundary;
- Develop the decision rule;
- Specify performance / acceptance criteria; and
- Optimise the design for obtaining data.

10.3 State the Problem

The Site is proposed to be redeveloped for industrial land use, development of which will include excavation of asbestos impacted soil within the landscaped areas and importation of ENM / VENM for capping. It should be noted, minor excavation / importation is anticipated to be required for areas below the slab.

Validation is required to demonstrate the remediation is successful and the Site is suitable for the proposed land use as described within **Section 1.1** of this report**.**

10.4 Identify the Decision

To satisfy the requirements of the RAP, the following decisions need to be addressed:

- Will the adopted remediation strategy meet the adopted validation criteria?
- Is there a requirement for ongoing long-term management following remediation?

10.5 Identify Inputs into the Decision

The inputs required to make the decision include the following:

- Additional waste classification sampling to meet off-site disposal requirements for off-site disposal.
- Visual confirmation of capping systems in place, including site observations, inspections, survey information, as-built drawings and waste / import registers.
- Validation sampling results.
- Outcome of the verification of the as built construction drawings.

10.6 Define the Boundaries of the Study

The remediation and validation will be confined to the Site boundaries as outlined within **Figure 2** in **Appendix A.**

10.7 Develop a Decision Rule to Identify the Decision

The validation criteria for the contaminants of concern are presented in **Section 10**. These criteria have been adopted based upon the framework provided by the NSW EPA. These criteria have been used as screening levels to determine whether additional assessment is required. EP Risk considers these criteria are sufficiently conservative and have been adopted as the validation criteria. The following decision statements for analysis of the results were adopted with respect to the adopted criteria:

Soil Health-Based Remediation Criteria

I. Where the data sets are not sufficiently populated to allow calculation of the 95% upper confidence limit ('UCL_{mean}') then the individual results must be less than the adopted criteria. If all the individual results are below the adopted criteria, then no additional assessment and/or management is required.

Where individual results exceed that adopted criteria, then further assessment and/or management is required.

II. In accordance with the ASC NEPM 2013, where 95% UCL_{mean} of the average concentration for each soil analyte can be calculated, then the 95% UCL_{mean} must be below the adopted criteria; no single analyte concentration exceeds 250% of the adopted criteria; the standard deviation of the results must be less than 50% of the adopted criteria; and the normal distribution will only be used where the coefficient of variance is not greater than 1.2. Allowances to these decision rules apply where alternative 95% UCL methods that are not based on normal or log-normal distributions are adopted. Where 95% UCL_{mean} results exceed the aforementioned criteria, then further assessment and/or management is required.

Soil Ecological-Based Validation Criteria

Based on the proposed development as warehousing with >95% with a finished concreted surface, the ecological screening levels are not considered relevant for the Site. It is noted that in a total of 8 samples the EIL was marginally exceeded for Copper, Nickel and Zinc.

10.8 Specify Acceptable Limits of Decision Errors and Data Quality Indicators

Specific acceptable limits of decision errors and DQI's were not derived for the validation of the remediation since no validation samples require analysis. The only validation sampling will be required for imported material.

10.9 Validation Sampling Works

The strategy to validate the remediation works will be undertaken according to requirements as outlined within **Table 7** below.

Table 7 – Validation requirements

Aspect	Sampling	Analysis	Observations and Documentation
Capping			
Surveying	N/A	N/A	Surveying of finished Site levels and provision of as built drawings are required to be provided by the remediation/building contractor. These documents should be incorporated within the Validation report for the Site.
Visual inspections	N/A	N/A	The validation consultant should conduct visual inspections throughout the remedial process and following completion of the works. Key inspection points include: - Geotextile / geogrid installation - Inspection of imported materials used to construct the cap in the landscape area. - Finished surface levels Details of visual observations and photographic record is to be provided within the final validation report.
Validation of imported materials	As below	As below	As below
Imported Materials			

Table 7 – Validation requirements			
Aspect	**Sampling**	**Analysis**	**Observations and Documentation**
Imported VENM / ENM for landscaped areas	Minimum 3 samples per source	Heavy metals, TRH, BTEX, PAH, OCP and PCB. Additional analysis may be required dependant on source site. Additional sampling may be required for ENM suite.	Building / remediation contractor to supply existing ENM/ VENM documentation (report to be prepared in accordance with the NSW EPA waste classification reporting requirements). Material must be approved by validation consultant for importation to Site. Material is to be inspected prior to and upon importation to Site by the validation consultant to confirm material is free from visible / olfactory contamination. Where check sampling occurs by the validation consultant due to apparent deficiencies in existing VENM / ENM / documentation the following is required: - Date of sampling. - Description of material. - Estimated volume of material imported at time of sampling. - Sample location plan. Analytical reports and tabulated results with comparison to the VAC.
Imported topsoil / garden mix / mulches	Minimum 3 samples for source for topsoil	Topsoil – as above. Analysis of mulch may be limited to visual observations to confirm there is limited anthropogenic material and no visible asbestos materials	
Imported engineering materials incl. recycled aggregate, road base.	At the validation consultant's discretion based on robustness of supplier documentation.	At the validation consultant's discretion based on robustness of supplier documentation.	Building / remediation contractor to provide documentation from the supplier confirming the material is a product comprising only of natural quarried materials. This must be approved by the validation consultant. Review of quarry's EPL if applicable. Material is to be inspected prior to and upon importation to Site by the validation consultant to confirm material is free from visible / olfactory contamination. Where check sampling occurs by the validation consultant due to apparent deficiencies in existing VENM / ENM / documentation the following is required: - Date of sampling. - Description of material. - Estimated volume of material imported at time of sampling. - Sample location plan. - Analytical reports and tabulated results with comparison to the VAC.

11 Site Management

A CEMP or similar environmental management document will be required prior to commencing the capping works. The document will be provided by the construction contractor. A summary of the minimum environmental safeguards to be implemented during remediation works is provided in this section. These should be considered when preparing the final CEMP.

11.1 Hours of Operation

Remediation capping works shall be undertaken as required during the following hours:

- Monday to Friday: 7:00 am to 5:00 pm.
- Saturday and Sunday: 8:00 am to 4:00pm.
- Public Holidays: No work expected.
- Emergency work is permitted to be completed outside of these hours.

11.2 Site Access

During remediation works, the works area will need to be secured around the perimeter of the remediation area which will restrict access to the Site. Only authorised persons will be able to enter the Site.

11.3 Imported Fill Materials

Prior to the importation of fill materials onto the Site the following must be undertaken:

- Material characterisation reports/certification showing the material being supplied is virgin excavated natural material (VENM) / excavated natural material (ENM) must be provided.
- Any imported VENM/ENM will need to be inspected at the source site and at the Site by a suitably qualified environmental consultant.
- Each truck entry will be visually checked and documented to confirm only approved materials consistent with the environmental approvals are allowed to enter the site. Only fully tarped loads are to be accepted by the gatekeeper. Environmental assurance of imported fill material will be conducted to confirm the materials comply with NSW EPA Waste Classification Guidelines and the Earthworks Specification for the Site.

11.4 Material Tracking Procedure

Significant waste disposal is not expected. The proposed finished floor levels (FFL) is 25.10 mAHD. Current site levels are between approximately 26 mAHD on the eastern boundary to approximately 23 mAHD on the western boundary and a negative cut & fill balance is therefore expected.

If soil materials require offsite disposal, appropriate waste classification in accordance with the NSW EPA (2014) Waste Classification Guidelines will be required. Waste will properly be disposed of to a waste facility lawfully able to accept the waste and waste disposal dockets will be included in the validation report.

11.5 Noise

All machinery and equipment used on-site will be in good working order and will be fitted with appropriate silencers when necessary and all equipment will be operated in an efficient manner.

11.6 Soil and Water Management

Details of the soil and water management procedures will be detailed in the contractor's CEMP, which will be prepared under a separate cover.

11.7 Air Quality

11.7.1 Asbestos Air Monitoring

Asbestos fibre air monitoring should be undertaken during any excavation and cut & fill works onsite. Air monitoring should be undertaken in accordance with 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 will be issued in accordance with NATA's accreditation requirements and kept on file and should be undertaken by a Safework NSW Licensed Asbestos Assessor in accordance with Safework 2019.

11.7.2 Dust Control

Dust emissions should be confined within the Site boundary. The following dust control procedures will be employed to comply with this requirement as necessary:

- Erection of dust screens around the perimeter of the Site.
- Securely covering all loads entering or exiting the Site.
- Use of water sprays across the Site to suppress dust.
- Covering of all stockpiles of contaminated soil remaining on-site more than 72 hours.
- Keeping excavation and stockpile surfaces moist.

11.7.3 Odour Control

If significant odours are identified at the boundary of the Site, then appropriate actions will be taken to reduce the odours, which may include: increasing the amount of covering of excavations/stockpiles; mist sprays; odour suppressants or maintenance of equipment.

On-site air monitoring using a photoionisation detector (PID) and Lower Explosive Limit (LEL) meter will be required within the work zone and along the boundary of the work zone to assess the concentration of volatile organic compounds (VOC) within the area. The air monitoring will be undertaken during bulk excavation and excavation of areas with elevated volatiles and the gasometers.

In the event that VOC concentrations in ambient air exceedances, works must cease and a competent person engaged to further investigate the potential risk of vapour inhalation for workers and to make appropriate recommendations regarding the mitigation of the potential vapour inhalation risk (where necessary). This should include the sampling and analysis of VOCs in air to determine which compounds the workers have been exposed to. Consideration should be given to the use of a half face respirator fitted with a suitable organic vapour filter, should the workers note odours or experience symptoms such as headaches or dizziness.

12 Work, Health and Safety

Health and Safety during the remediation works will be the responsibility of the contractor, including the preparation of a Health and Safety Plan and a hazard assessment.

12.1 Health and Safety Plan

A Work Health and Safety Plan ('WHSP') will be prepared for the remedial works by the contractor. The purpose of the WHSP is to provide all relevant information to all Site personnel to ensure that they are aware of the hazards and the protective measures adopted to mitigate the identified hazards.

12.2 Hazard Assessment

All hazards associated with the remedial works should be identified by the contractors and incorporated into the WHSP.

12.3 Safe Work Practices

The WHSP will document all safe work practices required to protect personnel at the Site involved in the remedial works.

All workers undertaking remedial works on site are required to wear the following personal protective equipment:

- Disposable nitrile or cut resistant gloves, when in direct contact with the soil;
- Long pants;
- Long-sleeved shirt;
- Hard hat (when plant and machinery are in operation);
- High visibility fluorescent vest; and
- Steel-capped boots.

For workers working within the designated asbestos work zones the following PPE is also mandatory:

- Type 5 & 6 disposable coveralls;
- Half face respirator with P2 particulate filter or P2 disposable mask;
- Full face respirator with P3 particulate filter (friable);
- Gloves; and
- Footwear that can be easily decontaminated (i.e. gumboots).

Respirators with appropriate organic vapour cartridges should be made available on site. As part of the SafeWork permitting process, additional PPE may be required in the event that friable asbestos is identified at the Site and will be upgraded to reflect SafeWork NSW requirements.

Further information regarding PPE to be worn at the Site should be outlined in the CEMP.

13 Conclusion

FIFE engaged EP Risk to prepare a RAP to support a subdivision of Lot 2 in DP 1175850 into two lots (Lot 1 and Lot 2). Based on previous assessments, remediation of proposed Lot 2 is required to make the site suitable for ongoing commercial/industrial landuse. Uncontrolled filling occurred onsite resulting in bonded and friable asbestos contamination within the FILL material. FILL has been observed from 0 to >3mBGL.

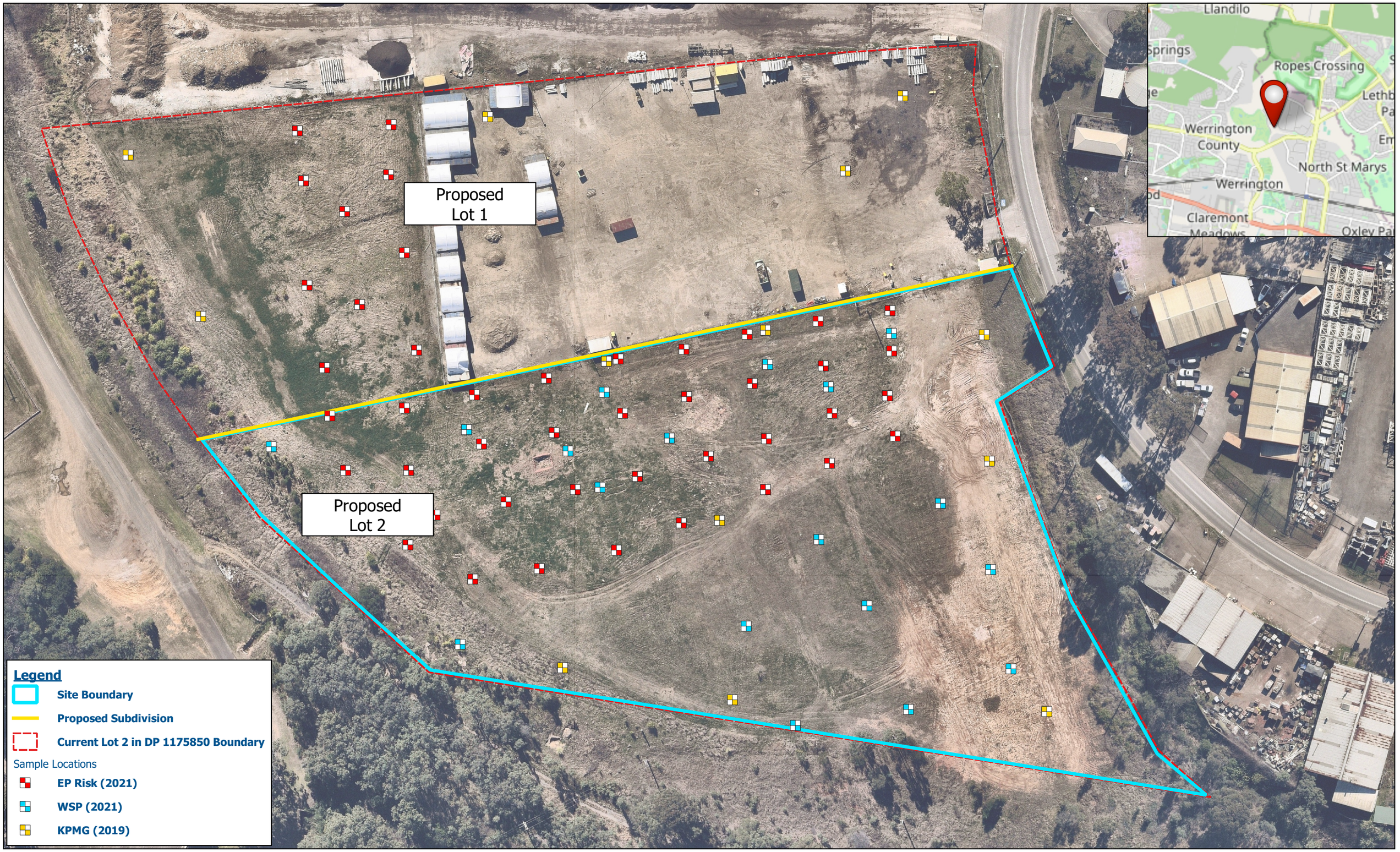
The 2-hectare Site is proposed to be redeveloped into a warehouse with outdoor parking, awnings, and concreted surfaces throughout. Approximately 500 m^2 will be landscaped.

The purpose of the RAP is to detail the preferred remedial strategy to render the Site suitable for the proposed subdivision. This will enable Council to condition the execution of the RAP as part of the subdivision consent.

Subject to the provision of a RWMS, EP Risk considers that implementation of the remediation strategy and subsequent validation works, and associated activities outlined in this RAP, will render the Site suitable for the proposed commercial/industrial land use.

In the event the proposed development of proposed Lot 2 will not be undertaken within a reasonable timeframe (1 year), an Interim Asbestos Management Plan (IAMP) should then be prepared to manage the contamination The objective of the IAMP is to prepare a practical, yet provisional plan to manage the identified hazardous materials and risks on the Site, so no risk exists to occupants, maintenance personnel or neighbouring properties, prior to site re-development or remediation.

Appendix A
FIGURES



EP RISK

www.eprisk.com.au

Remediation Action Plan (Proposed Lot 2)
75 - 87 Dunheved Circuit, St Marys, NSW 2760

Figure 1 - Site Layout and Sample Locations

Job No: EP2048
Date: 06/09/2021
Drawing Ref: EP2048.002_Fig1
Version No: v1

N

0 18 36 54 m

Approximate Scale Only

Coordinate System: MGA 56
Drawn by: MBO Checked by: AT
Scale of regional map not shown
Source: Near Maps

APPROVED COMPANY ISO 9001 Quality Management Systems
APPROVED COMPANY AS/NZS 4801 Occupational Health & Safety Management Systems
APPROVED COMPANY ISO 14001 Environmental Management Systems
QMS Certification Services QMS Certification Services QMS Certification Services

TSS TOTAL SURVEYING SOLUTIONS
LANE COVE | CAMDEN | MANLY VALE | CENTRAL COAST

DIMENSIONS AND AREAS ARE APPROXIMATE AND ARE SUBJECT TO FINAL SURVEY. ADDITIONAL EASEMENTS AND RESTRICTIONS MAY BE REQUIRED SUBJECT TO COUNCIL DEVELOPMENT APPLICATION AND SUBDIVISION CERTIFICATE APPROVAL

MGA
SCIMS

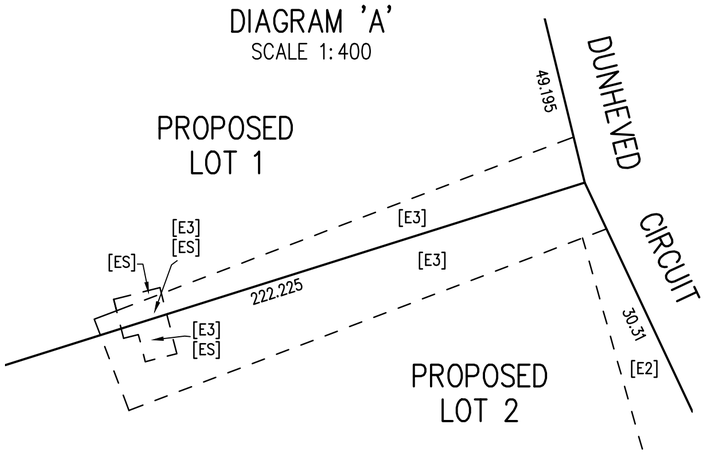
1
DP 1175850

PROPOSED
LOT 1
2.035Ha

PROPOSED
LOT 2
2.020Ha

259.39
[S]
12.09
DUNHEVED
49.195
ARC-44.71
ARC-68.505
222.225
SEE DIAGRAM 'A'
30.31
18.365
CIRCUIT
59.33
7 / DP 31908
44.65
[E1]
21.41
219.64
210 / DP 31908
ARC-3.9
67.92
1 / DP 31908
ROAD
LINKS

DIAGRAM 'A'
SCALE 1:400

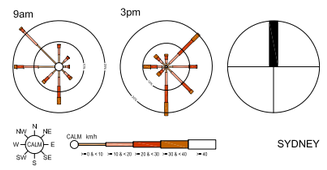


EASEMENTS:
[E2] EASEMENT FOR OVERHEAD POWER LINES VARIABLE WIDTH
[E3] EASEMENT FOR OVERHEAD POWER LINES 9 WIDE
[S] EASEMENT FOR SERVICES VARIABLE WIDTH
[ES] EASEMENT FOR ELECTRICAL SUBSTATION 3 WIDE & 4.4 WIDE

SURVEYOR Name: RICHARD ABBOTT Date Issued: 2/11/2020 Reference: 202098–1	PLAN OF PROPOSED SUBDIVISION OF LOT 2 DP 1175850	LGA: PENRITH Locality: ST MARYS Reduction Ratio. 1:1000 Lengths are in metres.	Richard Abbott Registered Surveyor Nº 9057	PROPOSED SUBDIVISION Issued: 2/11/2020

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

REVISIONS		
A	DEVELOPMENT APPLICATION	15.12.20
B	SYDNEY WATER ASSET SURVEY OVERLAY	29.03.21
C	WAREHOUSE SHIFTED DOWN TO AVOID SEWERAGE LINE	16.04.21
D	LD PAVEMENT AREA CORRECTED	23.04.21
E	1% FLOOD EXTENT	30.04.21
F	REVISION – SITE ADDRESS, OSD TANK, RWT, SILOS	14.05.21
G	REVISION – COUNCIL RFI	26.07.21



EMKC
advise | design | develop

PROJECT

PIPE MAKERS

75 - 87 DUNHEVED CIRCUIT
ST MARYS, NSW

DRAWING TITLE

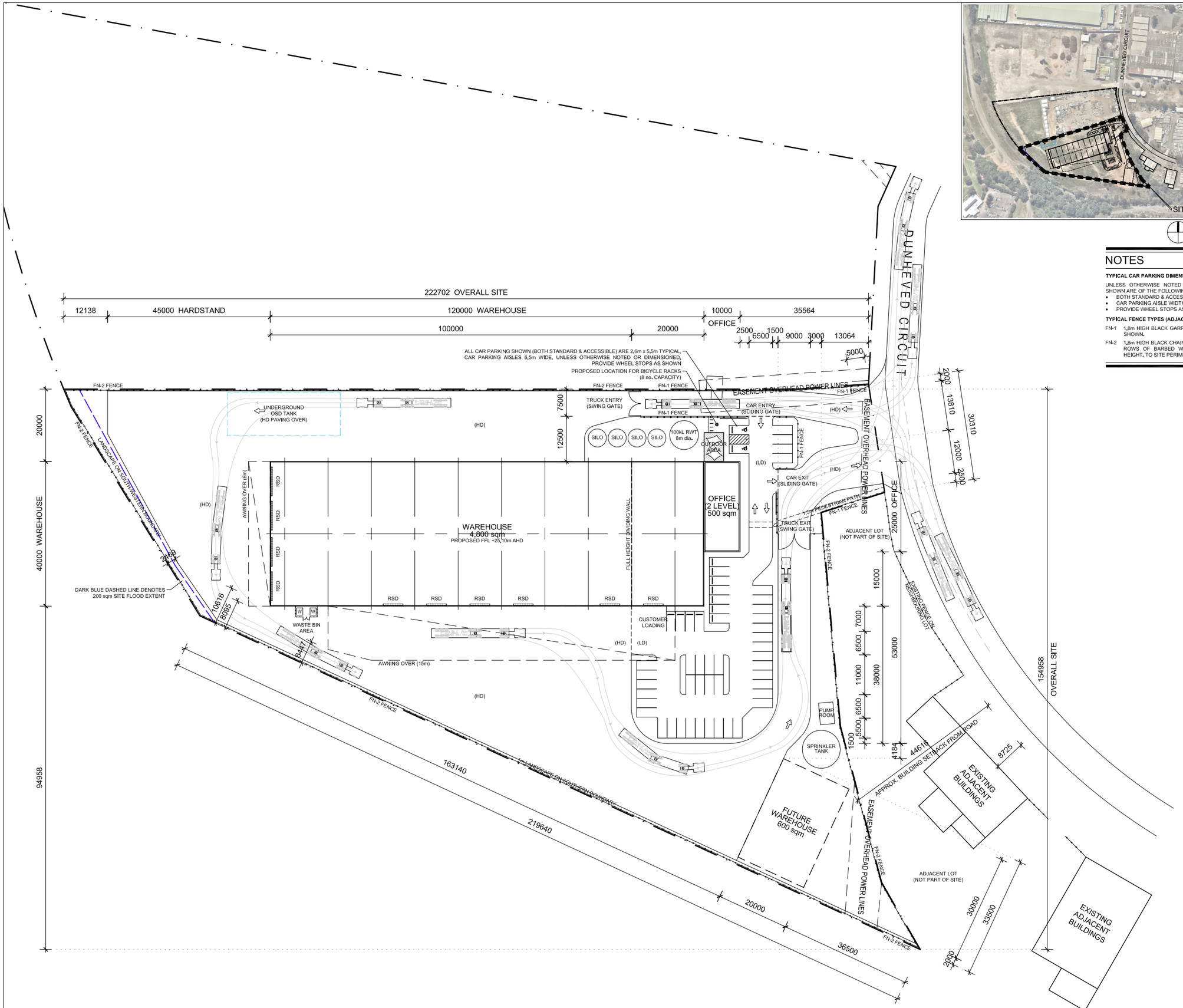
PROPOSED ESTATE PLAN

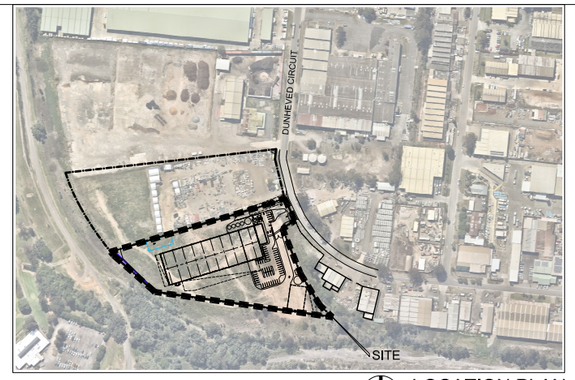
0 25 50 75 100 125m

SCALE: 1 : 2500 @ A3

CREATE DATE : 26.07.2021 PLOT DATE : 26.07.2021
LAST SAVED BY: yoonmengJoh

100285 SM DA01 000 G





LOCATION PLAN

REVISIONS

A	DEVELOPMENT APPLICATION	15.12.20
B	SYDNEY WATER ASSET SURVEY OVERLAY	29.03.21
C	WAREHOUSE SHIFTED DOWN TO AVOID SEWERAGE LINE	16.04.21
D	LD PAVEMENT AREA CORRECTED	23.04.21
E	1% FLOOD EXTENT	30.04.21
F	REVISION – SITE ADDRESS, OSD TANK, RWT, SILOS	14.05.21
G	REVISION – COUNCIL RFI	26.07.21

NOTES

TYPICAL CAR PARKING DIMENSIONS

UNLESS OTHERWISE NOTED OR DIMENSIONED, ALL CAR PARKING SHOWN ARE OF THE FOLLOWING TYPICAL DIMENSIONS:

- BOTH STANDARD & ACCESSIBLE SPACES = 2.6m X 5.5m TYPICAL
- CAR PARKING AISLE WIDTH = 6.5m TYPICAL
- PROVIDE WHEEL STOPS AS SHOWN.

TYPICAL FENCE TYPES (ADJACENT GATES TO MATCH)

FN-1 1.8m HIGH BLACK GARRISON FENCE. TO STREET FRONTAGE AS SHOWN.

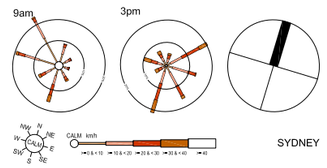
FN-2 1.8m HIGH BLACK CHAIN WIRE MESH FENCE WITH ADDITIONAL 3 ROWS OF BARBED WIRE ABOVE TO 2.1m OVERALL FENCE HEIGHT. TO SITE PERIMETER AS SHOWN.

DEVELOPMENT SUMMARY

SITE AREA	20,200 sqm
WAREHOUSE	4,800 sqm
OFFICE (2 LEVELS)	500 sqm
TOTAL BUILDING AREA	5,300 sqm
EFFICIENCY / SITE AREA	26.24 %
FUTURE WAREHOUSE	600 sqm
AWNING (6m)	240 sqm
AWNING (15m)	1420 sqm
CAR PARKING PROVIDED	53 spaces
LIGHT DUTY PAVEMENT (LD)	1,820 sqm
HEAVY DUTY PAVEMENT (HD) * INCL. 366 sqm AREA OVER DETENTION TANK	9,970 sqm
UNDERGROUND OSD TANK	366 sqm

LEGEND

- PROPOSED LOT BOUNDARY
- EXISTING EASEMENT / COVENANT
- PROPOSED FENCE LINE



EMKC
advise | design | develop

PROJECT

PIPE MAKERS

75 - 87 DUNHEVED CIRCUIT
ST MARYS, NSW

DRAWING TITLE

PROPOSED SITE PLAN

0 5 10 15 20 25 50m

SCALE: 1:1000 @ A3

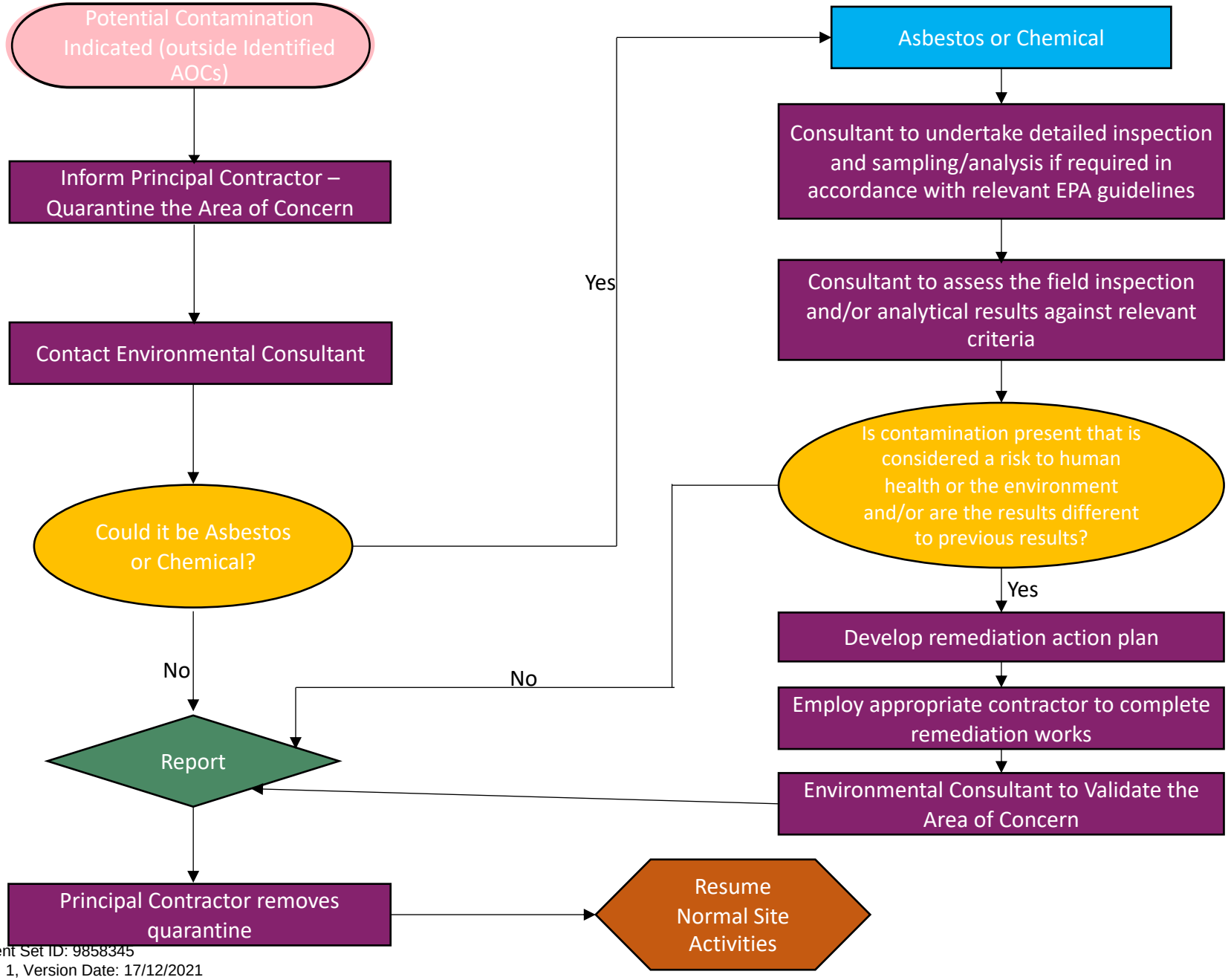
CREATE DATE: 26.07.2021 PLOT DATE: 26.07.2021

LAST SAVED BY: yoonmengJoh

100285 SM DA01 002 G

Appendix B
UNEXPECTED FINDS PROTOCOL

Unexpected Finds Protocol (UFP)



Appendix C
AIR MONITORING RESULTS

Airborne Asbestos Fibre Monitoring Report

Job & Report Number:	EP2048_003_AM001	**Date Reported:**	06 September 2021
Shift Number:	AM001	**Date Analysed:**	03 September 2021
Project Reference:	EP2048	**Date Sampled:**	22 March 2021
Attention to:	Rebecca Bestic	**Sampled By:**	Alex Thomson
Email:	Rebecca.Bestic@fifecapital.com.au	**Analysed By:**	Alex Thomson
Client:	Fife Capital	**Site Address:**	65 Dunheved Circuit, St Marys NSW
Client Address:	Level 12, 89 York Street, Sydney NSW 2000	**Laboratory Address:**	109 / 283 Alfred St, North Sydney, NSW 2060
Type of Monitoring:	Control	**Number of Samples:**	6

OBJECTIVE

This air monitoring assessment was commissioned to provide background readings of airborne asbestos fibres in accordance with SafeWork NSW requirements, as a control measure during disturbance of potential asbestos-containing soils at the Site.

METHODOLOGY

Sample Type	Control Airborne Asbestos Fibre Monitoring was nominated as a control measure for works in a public location in accordance with Section 3.11 of the SafeWork Australia's Code of Practice How to Safely Remove Asbestos (2016).
Volume Air Measurement:	Sampling conducted in accordance with the NOHSC:3003(2005) Membrane Filter Method ('MFM'). Air sampling pumps utilised were calibrated by EP Risk and therefore volume measurements are traceable back to a primary calibration standard.
Monitoring Methodology:	A total of 6 calibrated air monitoring pumps, equipped with 25 mm filter cartridges (for airborne asbestos air monitoring) were placed in representative locations on the boundary or the Site. The monitors were placed in a manner to be free from obstructions between 1.2 m to 2.0 m from the ground surface at locations presented in **Figure 1** of **Attachment 1**.
Test Method:	Estimation of Airborne Asbestos Fibres by the Membrane Filter Method ('MFM'). Filters examined in accordance with the National Occupational Health & Safety Commission ('NOHSC') - *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* NOHSC:3003 (April 2005) and EP Risk's in- house method as described within the LQMS *Fibre Counting Procedure Manual* . Testing conducted in general accordance with ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

AIRBORNE ASBESTOS FIBRE MONITORING RESULTS

EP Risk Sample ID	Pump ID	Sample Location	Flow Rates			Start Time	Finish Time	Sample Duration (mins)	Fibre Count (Fibres/ fields)	Result [1] (fibres/ mL)
			Start (L/min)	Finish (L/min)	Average (L/min)					
EP2048_003_AM001_001	EPR 007	Lot 2, south western portion - on cone	2.0	2.0	2.0	8:45	14:25	340	1/100	<0.01
EP2048_003_AM001_002	EPR 009	Lot 2, central western portion - on cone	2.0	2.0	2.0	8:47	14:27	340	5/100	<0.01
EP2048_003_AM001_003	EPR 014	Lot 2, sorth western portion - on cone	2.0	2.0	2.0	8:49	14:31	342	0/100	<0.01
EP2048_003_AM001_004	EPR 019	Lot 2, south eastern portion - on star picket	2.0	2.0	2.0	8:52	14:35	343	0/100	<0.01
EP2048_003_AM001_005	EPR 025	Lot 2, central eastern portion - on star picket	2.0	2.0	2.0	8:56	14:37	341	0/100	<0.01
EP2048_003_AM001_006	EPR 026	Lot 2, north eastern portion - on star picket	2.0	2.0	2.0	8:59	14:39	340	0/100	<0.01

CONCLUSION

The results of the airborne asbestos fibre monitoring survey were below the adopted SafeWork NSW action level[3] of 0.01 fibres/mL.

AUTHORISATION

Results approved by:

Alex Thomson
Approved Signatory
Senior Environmental Scientist SafeWork NSW Licenced Asbestos Assessor
LAA001085

EP Risk Management Pty Ltd

NATA Accredited
Accreditation Number: 20264
Site Number: 24130

Accredited for compliance with ISO/IEC 17025 - Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

REPORT COMMENTS

Results are reported as per the LQMS and Internal Laboratory Procedures.
This test report shall not be reproduced except in full, without written approval of EP Risk Management Pty Ltd.

[1] Fibres / mL (C) = (A/e).(N/n).(1/r).(1/t).
Where: A/e = 51,166 (Microscope Constant), C = concentration, N = fibres counted, n = fields counted, r = flowrate and t = time.
[2] If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005).
[3] NSW *WHS Regulation* 2017, Clause 476.