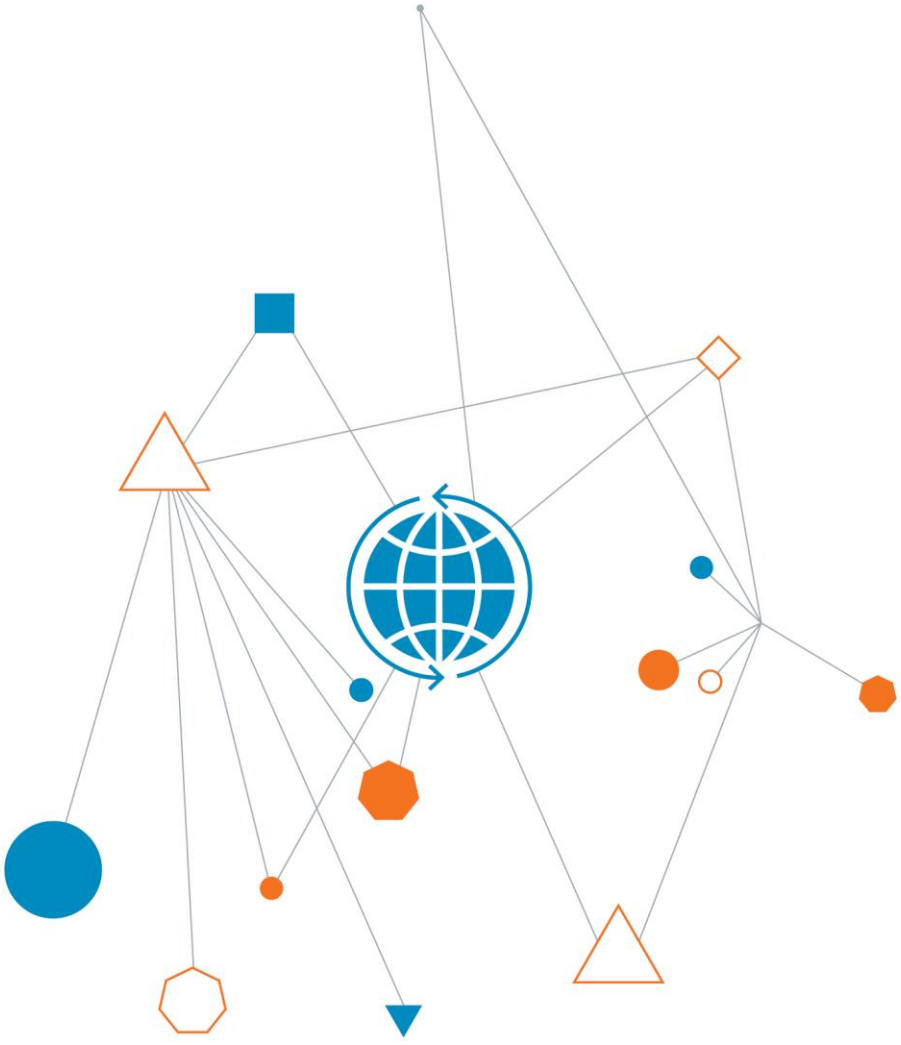
Mirvac Real Estate Pty Ltd

Asbestos and Hazardous Materials Re-Inspection

80 Pacific Highway
North Sydney NSW 2060

18 May 2020



When you think with a global mind problems get smaller

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Asbestos and Hazardous Materials Re-Inspection

Prepared for
Mirvac Real Estate Pty Ltd

Prepared by
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Quality Information

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Revision	Description	Date	Originator	Reviewer	Approver
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18 May 2020

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Limitations

Coffey has conducted work concerning the environmental status of the property which is the subject of this report, and has prepared this report on the basis of that assessment.

The work was conducted, and the report has been prepared, in response to specific instructions from the client to whom this report is addressed, within the time and budgetary requirements of the client, and in reliance on certain data and information made available to Coffey. The analyses, evaluations, opinions and conclusions presented in this report are based on those instructions, requirements, data or information, and they could change if such instructions etc. are in fact inaccurate or incomplete.

Investigations have been based on inspections conducted in accordance with relevant guidelines and standards, and normal industry practice, having regard to the client's instruction, and interpretations of conditions are based on the data from those inspections and, where relevant and conducted, testing. To the best of our knowledge, they represent a reasonable interpretation of the condition of the site as able to be inspected.

This report has been provided by Coffey for the sole use of the client and only for the purpose for which it was prepared. Any representation contained in the report is made only for the client.

No inspection can be guaranteed to locate all asbestos in a specific location. The assessment cannot be regarded as absolute, without extensive invasion of structures. Future demolition and or renovation to site structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

The survey brief is to identify every reasonably accessible Asbestos Containing Material (ACM). Reasonably accessible does not extend to searching for concealed ACM beneath concrete encased structural beams or beneath concrete floors, behind another ACM, or any other locations which, to access, would cause structural damage that could potentially destabilise the structure or the building. Given the way in which ACM was used in the construction of buildings, some may only be detected during the course of any subsequent demolition.

Hazardous Materials surveys are restricted to areas that are reasonably accessible during the survey, with respect to the following:

- without contravention of relevant statutory requirements or codes of practice;
- without placing the surveyor at undue risk;
- without dismantlement or damage to installed fixtures and fittings, plant, electrical equipment, machinery; and
- without dismantlement, demolition or damage to finishes and structure.

Any areas within the remit of the survey but not described within the body of the report or in the Asbestos Material Assessments should be regarded by the client as un-surveyed, and potentially containing amphibole asbestos. A competent person should assess such areas before any work affecting them is carried out.

It must be assumed that materials visually assessed as presumed asbestos contain amphibole asbestos, unless sampled and analysed to prove otherwise. All areas where access was not possible must also be presumed to contain asbestos until proven otherwise.

Coffey assessors take samples at any situations known, or suspected, to contain Asbestos. Where the analysis determines that No Asbestos is Detected (NAD) the samples are listed in the report to provide information for potential future assessments.

Representative sampling is defined as one like sample per consistent material type, situation or item. In these instances only one test sample will be collected for analytical confirmation and the results expressed as consistent and typical of the building. It is advisable to presume that materials similar to those positively identified as asbestos also contain asbestos until proved otherwise. It should not be

presumed that materials similar in appearance to those tested and found not to contain asbestos also do not contain asbestos.

Due to the very low concentration of asbestos fibres and the non-homogenous matrix of vinyl floor tiles, false negative results may be obtained. Therefore the accuracy of all results cannot be guaranteed.

Notably, with some asbestos containing bulk material it can be very difficult to detect the presence of asbestos using the polarised light microscopy analytical method, even after ashing or disintegration of samples. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or attributed to the fact that, very fine fibres have been distributed individually throughout the materials.

The analysis of many asbestos products used as a component of insulation materials, may be compromised in instances where the material has been heat affected, as heat may alter the morphology of the fibrous material.

Internal building materials should be assumed to contain asbestos and lead-based paint, and any fluorescent lights inside the buildings should be assumed to contain PCB capacitors until otherwise assessed.

It is also noted that sub-surface conditions can change with time, and the report is based on data that was gathered at the time of the report. Coffey will not update the report and has not taken into account events occurring after the time its assessment was conducted.

The following limitations and restrictions to specific materials, installations and locations are commonly found during surveys of this nature, even if safe access can be provided through consultation with the client this inspection and report may not include the following areas:

- Risers / Ceiling, Floor or Wall Cavities, and Voids - may be completely blocked or bricked in. Occasionally may only be detected if shown on building construction plans or during demolition
- Columns / Structural Elements - these will not be penetrated if doing so will damage the stability of the building.
- Roofs / External Areas - these will not be checked if safe access cannot be achieved.
- Confined Spaces - these will not be checked if safe access cannot be achieved.
- Restricted Access - areas subject to restricted access will not be checked unless special arrangements have been made through the client within the remit of the survey.
- Lifts / Shafts – these will not be checked for safety reasons unless a lift engineer accompanies the surveyor.
- Live Plant or Electrical Installations - live electrical installations including fuse boxes, electrical control cabinets, distribution panels etc. are not routinely checked for safety reasons. Electrical equipment will only be examined if it is locked off and an isolation certificate has been issued. Under exceptional circumstances, when arranged by the client, examination of non-isolated equipment may take place under the supervision of an electrician.
- Boilers - may contain asbestos internally, which is not visible or accessible until the unit is dismantled. Note: Where a bulk sample is obtained from a non-dismantled boiler it should not be regarded as definitive of all materials contained within the boiler’s structure.
- Live Refrigerators / Cold Rooms / Mechanical Equipment / Heater Units / Kilns - may contain asbestos internally, which is not visible or accessible until the unit is isolated and dismantled
- Safes - the walls of some safes cannot be penetrated even where access arrangements have been made.

Table of contents

Appendices

Executive Summary

Coffey Services Australia Pty Ltd (Coffey) conducted an Asbestos and Hazardous Materials Re-Inspection of 80 Pacific Highway, North Sydney NSW 2060 on the 2nd March 2020. The survey was undertaken to facilitate the inspection of asbestos and other hazardous materials (HazMat) in accordance with the requirements of the NSW Code of Practice *How to Manage and Control Asbestos in the Workplace (2019)*, and relevant asbestos legislation.

State Legislation and guidance requires that the registers be used by and made available to property owners, employers, workers, persons intending business at the premises and Health and Safety Representatives, as part of overall hazardous materials management designed to control the risks of exposure to Hazardous Materials.

This contract was completed by Coffey on the basis of a defined program of work and terms and conditions agreed with the Client. We confirm that in preparing this report we have exercised all reasonable skill and care bearing in mind the project objectives, the agreed scope of works and prevailing site conditions. The client should be made aware of the limitations of a survey being conducted in a destructive manner and is referred to in the above limitations.

From the site survey results, a register of asbestos has been produced, in accordance with the requirements of the relevant Regulations, Codes of Practice and Guidance Notes. During the audit conducted by Coffey, the following hazardous materials were noted:

Asbestos Containing Materials (ACM)

- Interior: throughout, fire doors – suspected asbestos containing fire door core.

Synthetic Mineral Fibres (SMF)

- Interior: basement, plant room, hot water heater – suspected SMF internal insulation material;
- Interior: all levels, throughout, ceiling – suspected SMF containing compressed ceiling tiles;
- Interior: all levels, throughout, penetrations – suspected SMF containing pillow insulation;
- Interior: all levels throughout, pipe work – suspected SFM containing external insulation;
- Interior: level 14 plant room, ceiling – suspected SMF containing sarking insulation;
- Interior: level 14, boiler pump room, boiler – suspected SMF containing internal insulation;
- Interior, level 14, throughout, beams – suspected SMF containing vermiculite coating; and
- Interior: all levels, throughout, air conditioning ductwork – suspected SMF containing internal insulation.

Lead-Based Paint (LBP)

No Lead-Based Paint was identified or suspected to be present at the time of survey.

Polychlorinated Biphenyls (PCB)

No PCB-containing capacitors were identified or suspected to be present at the time of survey.

Ozone Depleting Substances (ODS)

- Interior: level 14, plant room, chiller, R22 refrigerant – ozone depleting substance.

1. Introduction

Coffey Services Australia Pty Ltd (Coffey) was engaged by Mirvac Real Estate Pty Ltd to conduct an Asbestos and Hazardous Materials Re-Inspection of the commercial office tower located at 80 Pacific Highway, North Sydney NSW 2060.

Phoebe Quessy and Jake Iskenderian of Coffey carried out the re-inspection on the 2nd March 2020, with the site contact providing access and information regarding the site and its history.

The assessment was conducted on the basis of the condition of the materials at the time of inspection and the future anticipated activities at the site.

No inspection can be guaranteed to locate all asbestos and hazardous materials in a specific location and therefore this assessment cannot be regarded as absolute. Planned and future demolition to site structures may expose situations which were concealed or otherwise impractical to access during this assessment.

1.1. Background.

Coffey understands that Mirvac Real Estate Pty Ltd is requesting this inspection to maintain and update records for the site in accordance with NSW *Work Health and Safety Regulation 2017* and the NSW Code of Practice *How to Manage and Control Asbestos in the Workplace* (2019).

1.2. Site Description

The hazardous materials re-inspection consisted of the base building areas of a multi storey office building.

Table 1: Site Information			
Site:	80 Pacific Highway, North Sydney NSW 2060		
Age (Circa):	Unknown	**External walls:**	Concrete
Approximate area:	5,000 m^2	**Internal walls:**	Concrete, plasterboard & tiles
Levels:	14	**Ceiling:**	Concrete
Roof type:	Concrete	**Floor and coverings:**	Concrete

1.3. Scope

The scope of work required Coffey to:

- Conduct a full Asbestos and Hazardous Materials (HazMat) re-inspection survey of all reasonably accessible areas within the site, to locate Asbestos Containing Materials (ACM), Synthetic Mineral Fibre (SMF), Lead-Based Paint systems (LBP), Polychlorinated Biphenyls in light capacitors (PCB) and Ozone Depleting Substances (ODS) in accessible areas;
- Collect representative samples of any suspect ACM and/or lead paint materials (where accessible) previously overlooked or missed and submit samples for laboratory analysis. ODS, PCB and SMF were identified on a visual basis only;
- Document the details of materials identified including photographs of any samples taken;
- Record, collate and report the findings; and
- Deliver one electronic report to the client.

The tenanted areas of the site were not included in the scope of works.

2. Methodology

Hazardous Materials surveys are undertaken considering a risk management approach, in accordance with best practice, relevant statutory regulations and relevant Codes of Practice. A risk assessment was conducted based on a number of factors associated with hazardous materials identified during the survey and prioritised through Risk and Action Classifications.

The assessment involved the onsite investigation for the presence of Asbestos Containing Materials (ACM), Synthetic Mineral Fibres (SMF), Lead Based Paint systems (LBP), Polychlorinated Biphenyls (PCB) and Ozone Depleting Substances (ODS – (CFC, HCFC, HFC). Information was collected from the site owners/occupiers/tenants on relevant issues pertaining to the site. Based on the available data and the status at the time of inspection, where items were identified, visual and/or analytical characterisation (where required) was performed and reported in the Asbestos and Hazardous Materials Register (refer **Appendix B**).

The assessment was conducted on the basis of the condition, type and location of the materials at the time of inspection. The scope of this investigation did not allow intrusive sampling techniques to be undertaken in all locations, and consequently the register may have limitations as a reference document for the purposes of renovation or demolition.

Only ‘typical’ suspected material occurrences are inspected and sampled. Sampling is undertaken on a representative basis, for example, the inspection of one fire door of the same type within the same area is undertaken (i.e. not every ‘matching’ fire door is examined), unless specifically instructed. Sample collection was performed in a non-destructive and non-invasive manner by competent persons. Presumptions, based on knowledge and experience, that inaccessible areas contain asbestos materials may also be made and stated within the register.

Samples collected are representative of the material sampled, individually identified, transported, analysed and reported in accordance with relevant Statutory Regulations, Codes of Practice and Coffey Environments Work Instructions. Laboratories undertaking analysis are appropriately NATA certified for the analysis conducted.

The presence of asbestos in bulk samples is determined by Polarised Light Microscopy (PLM) with dispersion staining techniques. Where asbestos was found to exist, a risk assessment was conducted on each item and a priority rating applied. This was conducted in accordance with the protocols described in **Section 5.1: Actions for Asbestos Materials.**

The register is made up of relevant information gathered on site plus Coffey Australia’s assessment of risk and assignment of action ratings. Reference to photographs, where available, is made in the

register along with sample identification and analysis results, where applicable. Sample analysis results from previous assessments may be utilised and referenced in this register.

3. Assessment Findings

The findings of this assessment are presented in tabulated format in **Appendix B: Asbestos and Hazardous Materials Register** of this assessment report. Hazardous building materials that have been photographed are shown in **Appendix A: Photographs**.

The following significant key findings are noted:

3.1. Hazardous Building Materials

3.1.1. Asbestos Containing Materials

- Interior: throughout, fire doors – suspected asbestos containing fire door core.

3.1.2. Synthetic Mineral Fibres

- Interior: basement, plant room, hot water heater – suspected SMF internal insulation material;
- Interior: all levels, throughout, ceiling – suspected SMF containing compressed ceiling tiles;
- Interior: all levels, throughout, penetrations – suspected SMF containing pillow insulation;
- Interior: all levels throughout, pipe work – suspected SFM containing external insulation;
- Interior: level 14 plant room, ceiling – suspected SMF containing sarking insulation;
- Interior: level 14, boiler pump room, boiler – suspected SMF containing internal insulation;
- Interior, level 14, throughout, beams – suspected SMF containing vermiculite coating; and
- Interior: all levels, throughout, air conditioning ductwork – suspected SMF containing internal insulation.

3.1.3. Lead-Based Paint

No Lead-Based Paint was identified or suspected to be present at the time of survey.

3.1.4. Lead Containing Dust

No Lead Containing Dust was identified or suspected to be present at the time of survey.

3.1.5. Polychlorinated Biphenyls

No PCB-containing capacitors were identified or suspected to be present at the time of survey.

3.1.6. Ozone Depleting Substances

- Interior: level 14, plant room, chiller, R22 refrigerant – ozone depleting substance

3.2. Areas of No Access

Where Areas of No Access have been identified it should be presumed that hazardous materials are present in these areas until further investigation can confirm or refute the presence.

No inspection can be guaranteed to locate all asbestos and hazardous materials in a specific location. The assessment cannot be regarded as absolute, without extensive invasion of structures. Future demolition and or renovation to site structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

Building service and building core areas were accessible at the time of the survey, excluding the limited access areas listed below.

AREAS OF NO ACCESS

The following areas were not accessible or had limited access at the time of survey:

- Tenanted office space throughout;
- Within live electricals and machinery;
- Lift motors; and
- Confined space areas.

4. Recommendations

The recommendations, conclusions or stability of hazardous materials contained in this report shall not abrogate a person of their responsibility to work in accordance with Statutory Requirements, Codes of Practice, Guidelines, Safety Data Sheets, Work Instructions or reasonable work practices.

4.1. Asbestos Containing Materials

4.2. Asbestos Materials Identified

Asbestos containing materials (ACM) are referred to as either friable or bonded.

Friable asbestos is in the form of a powder, or can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friable asbestos includes materials such as sprayed and thermal insulation, pipe lagging and millboard, and can release fibres with only minimal disturbance. Friable ACM exhibits the greatest risk to human health as fibres are released upon minimal disturbance.

Bonded asbestos products are ones in which the asbestos fibres are bound within the matrix of the material. Bonded asbestos is difficult to damage or cause the release of fibres by hand and includes materials such as asbestos cement sheeting (fibre cement or fibro), vinyl floor tiles and zelemite electrical switchboards. However, bonded Asbestos-containing materials that have been subjected to weathering, physical damage, water damage, fire or other conditions may contain exposed fibres which could be released upon disturbance.

The asbestos information contained within this report is insufficient to meet the requirement for risk assessment for a management plan. Any Asbestos or other Hazardous Materials remaining in situ at the conclusion of the project will need to be detailed in the site-specific Hazardous Materials Register and Asbestos Management Plan as required by the NSW Work Health and Safety Regulation 2017.

Based on the findings of this hazardous materials survey, the recommendations regarding ACM are:

- ACM that has been identified in this survey must be removed prior to the commencement of general demolition works.
- When asbestos removal works are to be undertaken, the person that commissions the works must ensure that this is undertaken by an appropriately licensed asbestos contractor. The asbestos removal works must be conducted under controlled asbestos removal working conditions.
- When non-friable asbestos removal works are to be conducted within or adjacent to a highly sensitive area or public location, Coffey recommends that a hygienist who is independent of the asbestos contractor should be engaged to undertake airborne asbestos fibre monitoring along the boundary of the works and within the work area on completion of the works.
- If friable asbestos is identified during future works and is to be removed, a licensed asbestos assessor who is independent of the asbestos contractor must be engaged to:
    - Inspect the asbestos removal work area prior to commencement of the works;
    - Undertake asbestos fibre air monitoring before and during friable removal works in the surrounding areas and clearance asbestos fibre air monitoring at the conclusion of the asbestos removal work; and
    - Complete a visual inspection of the asbestos removal area and the area immediately surrounding it and ensure these are free from visible asbestos contamination.
- The licensed asbestos assessor must provide a Clearance Certificate that documents the visual clearance inspection and the satisfactory completion of the asbestos removal works. The Clearance Certificate should state that all visible asbestos dust and debris resulting from the asbestos removal process has been removed from the removal area(s) and from areas adjacent to the removal work area(s).
- ACM left on-site should be labelled in accordance with *NSW Code of Practice: How to Manage and Control Asbestos in the Workplace, 2019 and AS 1319-1994 Safety signs for the occupational environment to warn of the dangers of disturbing these materials*.
- An Asbestos Management Plan (AMP) should be created and maintained for all ACM that remain at the site to assist the site controller with the management of these materials. The AMP must ensure that suitable control measures are implemented to prevent site personnel and others from being exposed to airborne asbestos fibre.
- Schedule periodic reassessment of ACM remaining on-site to monitor their aging/deterioration so that the site controller can be alerted if any ACM require encapsulation or removal – in accordance with NSW Code of Practice*: How to Manage and Control Asbestos in the Workplace* 2019.
- During future demolition works, if any materials that are not referenced in this report and are suspected of containing asbestos are encountered, then works must cease and an asbestos hygienist should be notified to determine whether the material contains asbestos.

4.3. Synthetic Mineral Fibres

Un-bonded or bonded SMF that has severely deteriorated has the potential of becoming airborne. Health effects that may occur with exposure to certain SMF materials include; irritation of the skin, eyes and upper respiratory tract. As such removal and replacement would be the preferred option if such materials were found in accessible areas or air conditioning systems.

The selection of the most appropriate control measure should be determined from risk assessments and detailed knowledge of the workplace and activities. The following general principles may be applied:

- If the SMF is un-bonded or deteriorated, in a poor/unstable condition and accessible with risk to health from exposure, immediate access restrictions should be applied and removal is required as soon as practicable;
- If the SMF is un-bonded or deteriorated, in a poor/unstable condition but in inaccessible areas (i.e. Ceiling space), removal is preferred. However, if removal is not immediately practicable, short-term control measures (i.e. restrict access, or provide personal protective equipment to personnel required to access the area etc.) may be employed until removal can be facilitated;

- If the SMF is bonded and in a poor/unstable condition; minimising disturbance and removal or encapsulation may be appropriate controls; and
- Prior to any demolition, partial demolition, renovation or refurbishment, synthetic mineral fibre materials likely to be disturbed by those works should be removed in accordance with the NOHSC Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006 (1990)].

Further assessment of risk through airborne fibre monitoring can assist with decisions on the most appropriate, and urgency of, control measures.

4.4. Ozone Depleting Substances (Refrigerants)

CFCs and HCFCs -Air-conditioning systems may contain refrigerants.

Removal should to be undertaken prior to any future demolition, partial demolition, renovation or refurbishment, where ODS's are likely to be disturbed. A licensed contractor who will recycle and reuse the refrigerant should decommission CFC and HCFC based equipment that is being disposed of in accordance with Association of Fluorocarbon Consumers and Manufacturers, *The Australian Refrigeration and Air Conditioning Code of Good Practice* – 1992 and the Australian Commonwealth Government Ozone Protection Act – 1989.

4.5. Training

N.B. Information, instruction and training must be provided to workers, contractors and others who may come into contact with hazardous materials in a workplace, either directly or indirectly.

Depending on the circumstances this hazardous materials awareness training may include:

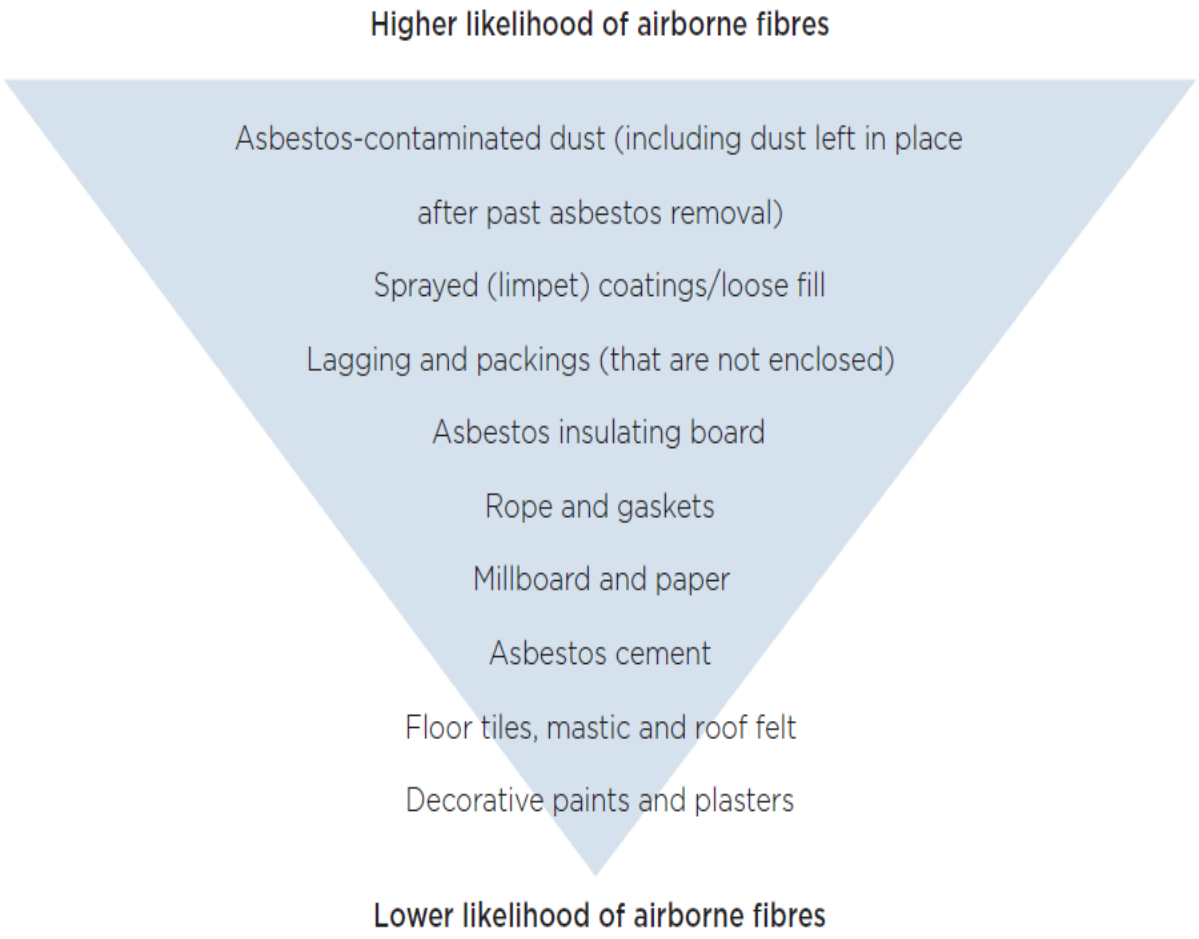
- The purpose of the training;
- The health risks of hazardous materials;
- The types, uses and likely occurrence of hazardous materials on site, in plant and/or equipment in the workplace;
- The trainees' roles and responsibilities under the workplace's hazardous materials management;
- Where the workplace's register of hazardous materials is located and how it can be accessed;
- The timetable for removal of hazardous materials from the workplace;
- The processes and procedures to be followed to prevent exposure, including exposure from any accidental release of hazardous materials into the workplace;
- Where applicable, the correct use of maintenance and control measures, protective equipment and work methods to minimise the risks from hazardous materials, limit the exposure of workers and limit the spread of hazardous materials outside any work area;
- The National Exposure Standard (NES) and control levels for hazardous materials; and
- The purpose of any air monitoring or health surveillance that may occur.

Should any further suspect Asbestos and/or Hazardous Materials become evident during future disturbance/ refurbishment works which have not been addressed in this report, Coffey should be contacted immediately so that a WHS consultant can confirm the status of the suspect material/s.

Coffey is able to assist with all aspects of Risk Management for removal of asbestos and other hazardous materials resulting from these findings.

5. Risk Assessment

From the findings of the hazardous materials survey, an individual risk assessment is conducted on each ACM. The following figure outlines the general likelihood of fibre release potential (Source: the NSW Code of Practice: *How to Manage and Control Asbestos in the Workplace* (2019).



Coffey adopts the following risk assessment algorithm in order to assess the risks associated with individual asbestos-containing materials identified.

ASBESTOS REGISTER SECTION

Friable

Variable	Score	Description
Friability	Y	Asbestos cement debris, or material which when dry may become crumbled, pulverised or reduced to powder by hand pressure.
	N	Bonded i.e. non-friable material

Materials Assessment

Variables	Scores	Examples of Score Descriptions
Asbestos Type	0	No asbestos
	1	Chrysotile only
	2	Amphibole asbestos (excluding crocidolite)
	3	Crocidolite
Product Type	0	No asbestos detected
	1	Bonded asbestos in good condition
	2	Friable asbestos in good condition or cement in poor condition
	3	Friable asbestos in poor condition
Extent of Damage	0	No visible damage
	1	Minor scratches or mark, broken edges
	2	Significant breakage, many small areas of damage to friable material
	3	High damage, visible debris
Surface Treatment	0	Bonded Asbestos including encapsulated asbestos cement
	1	Enclosed laggings, sprays and boards or bare cement
	2	Bare board or encapsulated lagging/spray or cement debris
	3	Unsealed lagging/spray

Location Assessment

Variables	Scores	Examples of Score Descriptions
Occupant Activity	0	Rare disturbance, e.g. little used store room
	1	Low disturbance, e.g. Office type activity
	2	Periodic disturbance, e.g. industrial or vehicular activity which may contact ACMs
	3	High levels of disturbance e.g. fire door with AIB sheet in constant use
Likelihood of Disturbance	0	Usually inaccessible or unlikely to be disturbed
	1	Minimal likelihood for disturbance
	2	Likely disturbance
	3	Frequent disturbance
Human Exposure Potential	0	Infrequent
	1	Monthly
	2	Weekly
	3	Daily
Maintenance Activity	0	Minor disturbance (e.g. possibility of contact when gaining access)
	1	Low Disturbance (e.g. changing light bulbs in AIB ceiling).
	2	Medium disturbance (e.g. lifting one or two ceiling tiles to access a valve)
	3	High level of disturbance (e.g. moving a number of AIB ceiling tiles to replace a valve or for re-cabling)

Risk Score

The asbestos-containing material risk score is a quantitative assessment determined by the sum of the scores based on the Materials and Location Assessments; i.e. Risk score = Material Score + Location Score (out of as possible 24).

Should no asbestos be detected then the register will indicate a risk score of 0.

Variable	Scores	Examples of Score Descriptions
Risk Score	0 - 6	Very Low Risk - Action Score A4
	7 - 9	Low Risk – Action Score A3
	13 - 18	Medium Risk – Action Score A2
	19 - 24	High Risk – Action Score A1

OTHER HAZARDOUS MATERIALS REGISTER SECTION

Coffey adopt the following material and location assessment algorithms in order to assess the risks associated with individual **hazardous materials other than asbestos** located;

Friable

Variable	Score	Description
Friable	Y	Unsealed SMF
	N	Sealed SMF
	NA	Applicable to ODS, PCB, Lead in paint

Material Assessment

Variable	Score	Examples of Score Descriptions
Extent of Damage	G	Good condition
	Av	Average condition
	P	Poor condition
Surface Treatment	Y	Sealed
	P	Part sealed
	N	Not sealed

Location Assessment

Variable	Score	Examples of Score Descriptions
Occupant Activity	H	High traffic area
	M	Medium traffic area
	L	Low traffic area

Risk Score

The hazardous materials other than asbestos risk score is a qualitative assessment determined by the combination of Material and Location Assessments. Depending on the material one or all of these criteria may be used in assessing the recommended Action.

Variable	Score	Examples of Score Descriptions
Risk Score	L	Low exposure risk
	M	Medium exposure risk
	H	High exposure risk

5.1. Actions for Asbestos Materials

Following the assessment for asbestos-containing materials an action score is assigned. For asbestos-containing materials this will be assigned according to the risk score associated with the material.

Action Ratings

A1	**Action 1**	**Restrict access and remove**
		As a guide, the material conforms to one, or more, of the following: Friable or poorly bonded to substrate, located in accessible areas Severely water damaged, or unstable Further damage or deterioration likely Friable asbestos material located in air conditioning ducting Asbestos debris and stored asbestos in reasonably accessible areas Post removal of A1 item, update Asbestos Materials Register and Asbestos Management Plan
A2	**Action 2**	**Enclose, encapsulate or seal and Label – Re-inspect according to Asbestos Management Plan**
		As a guide, the material conforms to one, or more, of the following: Damaged material In reasonably accessible area Friable material or poorly bonded to substrate, with bonding achievable Possibility of disturbance through contact Possibility of deterioration caused by weathering Post encapsulation of A2 item, update Asbestos Materials Register and Asbestos Management Plan
A3	**Action 3**	**Remove during refurbishment or maintenance and Label – Re-inspect according to Asbestos Management Plan**
		As a guide, the material conforms to one, or more, of the following: Asbestos debris or stored material in rarely accessed areas Further disturbance or damage unlikely other than during maintenance or service Readily visible for further assessment Asbestos CAF Gaskets Asbestos friction materials and brake linings
A4	**Action 4**	**No remedial action, Label – Re-inspect according to Asbestos Management Plan**
		As a guide, the material conforms to one, or more, of the following: Firmly bonded to substrate and readily visible for inspection Inaccessible and fully contained Stable and damage unlikely

Acronyms

ACM	Asbestos-containing material
NOHSC	National Occupational Health and Safety Commission
AMP	Asbestos Management Plan
V.O.	Visual Observation
NATA	National Association of Testing Authorities, Australia
PLM	Polarised Light Microscopy
SEM	Scanning Electron Microscopy
EDAX	Energy Dispersive X-ray Analysis
CH	Chrysotile Asbestos
CR	Crocidolite Asbestos
AM	Amosite Asbestos
NAD	No Asbestos Detected

Definitions

Accredited Laboratory – means a testing laboratory accredited by NATA (National Association of Testing Authorities, Australia).

Air Monitoring – means atmospheric sampling for airborne contaminants including asbestos and SMF fibres or lead dust to assist in assessing human exposure and the effectiveness of control measures. This includes exposure monitoring, clearance monitoring (asbestos) and control monitoring.

Appropriately Qualified Person – means the person possesses the qualifications and experience necessary to find hazardous materials in a building.

Approved Respirator - A respirator which complies with AS/NZS 1716 - Respiratory Protective Devices.

Approved Cleaner - Vacuum cleaning equipment that passes all extracted air through a High Efficiency Particulates Air (HEPA) filter before the air is discharged into the atmosphere and conforms to the relevant requirements of the AS 3544 - Industrial Vacuum Cleaners for Particulates.

Asbestos – fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.

Asbestos-containing Material (ACM) – means any material, object, product or debris containing asbestos.

Asbestos Removalist – means a person whose business or undertaking includes asbestos removal work or a self-employed person whose work includes asbestos removal work.

Asbestos Removal Control Plan – A site specific document to be prepared by the removal contractor based on the information in the National Code of Practice How to Safely Remove Asbestos (Safe Work Australia 2016).

Asbestos Work - means work undertaken in connection with a construction work process in which exposure to asbestos may occur and includes any work process involving the use, application, removal, mixing or other handling of asbestos or asbestos-containing material.

Asbestos Removal Work – means work undertaken to remove friable or bonded asbestos-containing material.

Asbestos Work Area – means the immediate area in which work on ACM is taking place. The boundaries off the work area must be determined by a risk assessment.

Bonded asbestos material - means any material (other than friable asbestos material) that contains asbestos.

Bonded asbestos removal work - means work in which bonded asbestos material is removed, repaired or disturbed.

Clearance Inspection – means a mandatory visual inspection carried out by a competent person to verify that an asbestos work area has been rendered free of visible asbestos contamination and is safe to be returned to normal use after work involving the disturbance of ACM has taken place. A clearance inspection must include a visual inspection, and may also include clearance air monitoring and/or settled dust sampling.

Clearance Monitoring – means air monitoring using static or positional samples to measure the level of airborne asbestos fibres in an area following work on ACM. An area is cleared when the level of airborne asbestos fibres is measured as being below eth clearance standard of 0.01 fibres/ml.

Construction Work - include all work performed in or in connection with the installation, erection, repair, cleaning, painting, renewal, renovation, dismantling, maintenance, ornamentation or demolition of buildings, ships, structures, pipes, plant, machinery, parts, artefacts, appliances, or tools or parts thereof.

Control Actions - In the process of implementing hazardous building materials management, it is fundamental that any identified situations have control actions determined to prevent personnel from being placed at risk.

Control Monitoring – means air monitoring using static or positional to measure the level of airborne asbestos fibres in an area during work on ACM or airborne lead dust in an area of lead paint removal. Control monitoring is designed to assist in assessing the effectiveness of control measures. Its results are not representative of actual occupational exposures and should not be used for that purpose.

Exposure Standard (TWA) - represent the National Occupational Health and Safety Commission (NOHSC) maximum exposure level by inhalation of airborne concentration of atmospheric lead over an eight-hour day, for a five-day working week, over an entire working life and expressed as 8-hour TWA (Time weighed average). The TWA do not represent 'no-effect' levels which guarantee protection to every worker.

Friable Asbestos-containing Material – means asbestos-containing material that, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure.

Hazard – means any matter, thing, process, or practice that may cause death, injury, illness or disease.

HEPA - High Efficiency Particulate Air. A filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micron in diameter or larger.

Membrane Filter Method - is the technique outlined in the NOHSC Guidance Note on the Membrane Filter Method for Estimating Method Airborne Asbestos Fibres 2nd Edition [NOHSC:3003 (2005)].

National Association of Testing Authorities, Australia (NATA) – the organisation that approves the method of sampling for airborne asbestos fibres, bulk sample analysis of asbestos-containing materials and hazardous materials inspections.

NOHSC - National Occupational Health and Safety Commission.

PPE/RPE - Personal / Respiratory Protective Equipment.

PM – Project Manager of the asbestos removal job. If a Principal Contractor has been appointed the Project Manager of the Principal Contractor, if no PM appointed then the owner is the Project Manager.

Person in charge of area - The person in charge of the building or area affected by the asbestos removal.

Restricted Area - A location requiring an Access/Work Permit because unprotected activity to undertake the intended purpose may expose a person to hazardous respirable (airborne) asbestos fibre. For example: Drilling a switch board containing asbestos; entry to a ceiling space containing asbestos or lead dust; entry to a riser shaft containing asbestos; access onto a fragile asbestos cement roof; a cupboard containing asbestos pipe lagging.

Risk – means the likelihood of a hazard causing harm to a person.

Safe Work Australia - An independent statutory agency responsible to improve occupational health and safety and workers' compensation arrangements across Australia.

6. Bibliography

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Department of Occupational Health, Safety and Welfare, Safe Handling of PCB in Fluorescent Light Capacitors - 1993

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National Occupational Health and Safety Commission (NOHSC), National Standard and National Code of Practice for Synthetic Mineral Fibre - May 1990

The National Model regulations for the Control of Workplace Hazardous Substances; [NOHSC: 1005 (1994)]

Department of Industrial Resources (DoIR) Guidance for Upstream Petroleum on the National Ban on Asbestos of 31 December 2003.

National Occupational Health and Safety Commission (NOHSC), Approved Criteria for Classifying Hazardous Substances, 1008 - 2002

Code of Practice: *How to Manage and Control Asbestos in the Workplace*, (2019)

Code of Practice: *How to Safely Remove Asbestos*, (2019)

Work Health and Safety Act (2011) and Regulations (2017) (NSW)

Occupational Health and Safety Act 2004 and Regulations 2017 (VIC),

Workplace Health and Safety Act 2012 and Regulations 2012 (TAS)

Amendment to the Customs (Prohibited Imports) Regulations 1956 - Regulation 4C – Importation of Asbestos – Australian Customs Notice No. 2009/30. – August 2009.

AS 1319-1994 Safety signs for the occupational environment.

Code of Practice: *Demolition Work 2016*.

Appendix A – Photographs

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Photo 1 Interior: all levels, fire door – suspected asbestos containing fire door core.

Photo 2 Interior: gas meter room, pipe work, blue gasket – no asbestos detected.

Photo 3 Interior: gas meter room, pipe work, white gasket – no asbestos detected.

Photo 4 Interior: level 14, access corridor to cooling tower, ceiling insulation board – no asbestos detected.

Photo 5 Interior: level 14, plant room, beams, vermiculite – no asbestos detected.

Photo 6 Interior: all levels, throughout, ceiling – suspected SMF containing compressed ceiling tiles.

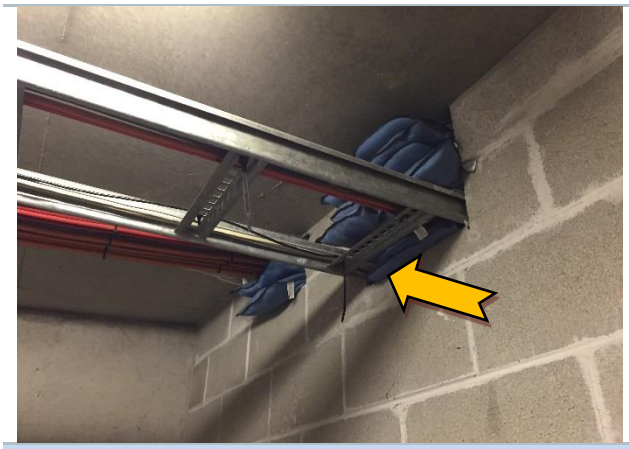

Photo 7 Interior: all levels, throughout, penetrations – suspected SMF containing pillow insulation.

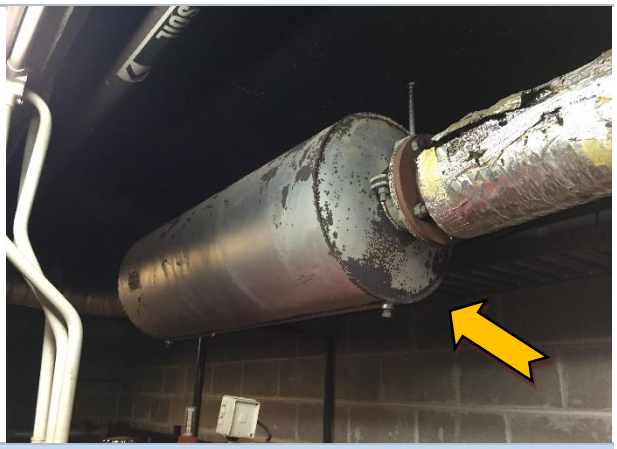

Photo 8 Interior: all levels throughout, pipe work – suspected SFM containing external insulation.

Photo 9 Interior: all levels, throughout, air conditioning ductwork – suspected SMF containing internal insulation.

Photo 10 Interior: level 16, cooling tower area, air conditioning ductwork – non lead based grey paint.

Appendix B – Asbestos and Hazardous Materials Register

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Coffey Services Australia Pty Ltd.
Level 19, Tower B, Citadel Towers
799 Pacific Highway, Chatswood NSW 2067

Appendix B: - Asbestos and Hazardous Materials Register

Client: Mirvac Real Estate Pty Ltd **Site Name: 80 Pacific Highway** **Site Address: 80 Pacific Highway, North Sydney NSW 2060** **Job No: SYDEN228268**

Area / Level	Room & Location	Feature	Item Description	Hazard Type	Sample No.	Sample Status	Friable	Asbestos Type	Product Type	Extent of Damage	Surface Treatment	Occupant Activity	Likelihood of Disturbance	Exposure Potential	Maintenance Activity	Risk Score	Action	Recommendations & Comments	Quantity	Reinspect Date	Photo No.
Interior All levels	Throughout	Fire door - single	Fire door core	Asbestos	Visual Observation	Suspected Asbestos	Y	3	2	0	0	1	0	1	1	8	A3	Fire doors manufactured prior to 31st December 2003 are suspected to be positive until till tested. Prior to any intrusion or removal, sampling is to be conducted by a suitably trained hygienist/LAA (if state requirement) and test at a NATA accredited facility for verification of internal core system.	Throughout	Mar-25	1
Interior Basement	Main switch room, air vent column	Insulation material	Vermiculite	Asbestos	Pachigh-01	No Asbestos Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interior Basement	Gas meter room, pipe work	Gasket	Blue gasket material	Asbestos	69200	No Asbestos Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Interior Basement	Gas meter room, pipe work	Gasket	White gasket material	Asbestos	69201	No Asbestos Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Interior Level 14	Access corridor to cooling tower	Ceiling	Insulation board	Asbestos	Pachigh-02	No Asbestos Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Interior Level 14	Access corridor to cooling tower	Beams	Vermiculite	Asbestos	Pachigh-03	No Asbestos Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interior Level 14	Plant room	Beams	Vermiculite	Asbestos	Ref Pachigh-03	No Asbestos Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Interior Basement	Plant room	Hot water heater	Insulation material - internal	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	1 unit	-	-
Interior All levels	Throughout	Ceiling	Compressed Ceiling Tiles	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	Throughout	-	6
Interior All levels	Throughout	Penetrations	Pillow insulation	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	Throughout	-	7
Interior All levels	Throughout	Pipe work	Insulation material - external	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	Throughout	-	8
Interior Level 14	Plant room	Ceiling	Sarking insulation	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	50 m^2	-	
Interior Level 14	Boiler pump room	Boiler	Insulation material - internal	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	1 unit	-	
Interior Level 14	Throughout	Beams	Vermiculite	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	Throughout	-	
Interior All levels	Throughout	Air conditioning ductwork	Insulation material - internal	SMF	Visual Observation	Suspected SMF	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per the Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	Throughout	-	9

Coffey Services Australia Pty Ltd.
Level 19, Tower B, Citadel Towers
799 Pacific Highway, Chatswood NSW 2067

Appendix B: - Asbestos and Hazardous Materials Register

Area / Level	Room & Location	Feature	Item Description	Hazard Type	Sample No.	Sample Status	Friable	Asbestos Type	Product Type	Extent of Damage	Surface Treatment	Occupant Activity	Likelihood of Disturbance	Exposure Potential	Maintenance Activity	Risk Score	Action	Recommendations & Comments	Quantity	Reinspect Date	Photo No.
Interior Basement	Adjacent Cisco Systems room	Air conditioning unit	R410A Hydrofluorocarbon (HFC)	Ozone Depleting Substances	Visual Observation	Non ODS Refrigerant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Interior Level 14	Plant room	Chiller	R22 Hydrochlorofluorocarbon (HCFC)	Ozone Depleting Substances	Visual Observation	ODS Refrigerant	NA	NA	NA	Good	Sealed	Low	NA	NA	NA	NA	Low	Hydrochlorofluorocarbon (HCFC), ozone depleting substances identified in the assessment that require removal during refurbishment or demolition works should be appropriately decanted and disposed of by a licensed contractor in accordance with the Ozone Protection and Synthetic Greenhouse Gas Management Amendment Regulation 2012.	2 units	-	
Interior Level 16	Cooling tower area	Air conditioning ductwork	Grey - Top coat	Lead Paint - Chip	L07491	Lead Not Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
No PCB's were identified or suspected top be present at the time of the survey																					

Appendix C – Laboratory Analysis Certificates

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Bulk Identification Report

Job No: 754-SYDEN228628 Mirvac 80 Pacific Highway 19032020
Client: Mirvac
Client Address: Level 28, 200 George Street,
Sydney NSW 2000

Contact: Melanie Jones
E-mail: melanie.jones@mirvac.com
Date Sampled: 24/02/2020
Date Printed: 19/03/2020
Sampled By: Phoebe Quessy & Jake Iskenderian
Site: 80 Pacific Highway, North Sydney

Accredited for compliance with ISO/IEC 17025 - Testing
Accreditation No:2220
Corporate Site No:16909

Please note: In accepting the results, you (the client) agree that Coffey Services Australia Pty Ltd does not accept any responsibility for the sample submitted in relation to its source and is not liable for any works undertaken at site based on the analytical data provided. Only the samples submitted for analysis have been considered in presenting these results. Should any other material suspected to contain asbestos be found at the site, then works should cease and a suitably trained asbestos hygienist should be engaged to sample or assess the material.

Test Method: **Asbestos in Bulk Samples and Non-homogenous Material**
Coffey analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Coffey SOP WILAB1, and Australian Standard (AS) 4964 – 2004, Method for the qualitative identification of asbestos in bulk samples (AS 4964). The detection limit for the test method as per AS 4964 is 0.1 g/kg. For non-homogenous samples a semi quantitative aspect is adopted for the test method and is taken into account when reporting the results. As per Coffey's NATA approved SOP WILAB1 sample retention periods are set at 1 month (no asbestos detected) and 3 months (asbestos detected).

Total Samples: **2**

Matthew Tang
Approved Identifier

Patricy Cortes
Approved Signatory

Sample No.	Location & Description	Sample Size	Results
69200	B1, gas meter room, blue gasket - blue fibrous gasket material	~ 9 x 8 x 3 mm	No asbestos fibres detected Organic fibres detected
69201	B1, gas meter room, white gasket - white fibrous gasket material	~ 10 x 7 x 3 mm	No asbestos fibres detected Organic fibres detected

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 238038

Client Details

Client	Coffey Environment
Attention	Phoebe Quessy
Address	Level 19, Tower B, Citadel Tower, 799 Pacific Hwy, Chatswood, NSW, 2067

Sample Details

Your Reference	**754-SYDEN228268, 80 Pacific Highway**
Number of Samples	1 Paint
Date samples received	03/03/2020
Date completed instructions received	03/03/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

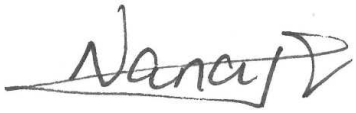
Date results requested by	06/03/2020
Date of Issue	06/03/2020

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Ken Nguyen, Reporting Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

Lead in Paint		
Our Reference		238038-1
Your Reference	UNITS	L07491
Date Sampled		02/03/2020
Type of sample		Paint
Date prepared	-	06/03/2020
Date analysed	-	06/03/2020
Lead in paint	%w/w	<0.005

Method ID	Methodology Summary
Metals-004	Digestion of Paint chips/scrapings/liquids for Metals determination by ICP-AES/MS and or CV/AAS.

QUALITY CONTROL: Lead in Paint						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			06/03/2020	[NT]	[NT]	[NT]	[NT]	06/03/2020	[NT]
Date analysed	-			06/03/2020	[NT]	[NT]	[NT]	[NT]	06/03/2020	[NT]
Lead in paint	%w/w	0.005	Metals-004	<0.005	[NT]	[NT]	[NT]	[NT]	107	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Appendix D – Asbestos Legislative Requirements

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LEGISLATIVE REQUIREMENTS — ASBESTOS

This document has been produced for information only and is under regular review due to frequent changes in legislation and guidance. It contains information relating to the column headings only and not, for instance, in relation to asbestos removal. It is the duty of employers, premise owners and controllers of premises etc. to ensure they are familiar with the latest applicable state legislation and guidance.

Introduction:

New (Harmonised) work health and safety laws commenced in the Commonwealth, New South Wales, Queensland, the Australian Capital Territory and the Northern Territory on 1 January 209 and in Tasmania and South Australia on 1 January 2013.

For links to these legislation and the most current information on the progress of legislative change for the other states, please access Safe Work Australia at:

http://www.safeworkaustralia.gov.au/Legislation/Pages/ModelWHSLegislation.aspx

Transitional Arrangements

Safe Work Australia has developed transitional principles that set out how arrangements under existing work health and safety legislation are intended to transition to the new harmonised system. There are transitional principles statements for both the WHS Act and Regulations. These are available from the Safe Work Australia site:

http://www.safeworkaustralia.gov.au/Legislation/transitional-arrangements/Pages/transitional-arrangements.aspx

Further, each state and territory work health and safety authority has also developed resources to assist their jurisdiction with the transition. If you have any questions regarding transitional arrangements in your jurisdiction please contact your regulator.

Further Useful Resources

Safe Work Australia publishes a range of guidance material to provide information on the model work health and safety laws and to assist compliance. This information can be accessed from:

http://www.safeworkaustralia.gov.au/Legislation/guidance-material/Pages/guidance-material.aspx

For More Information Contact:

Coffey Services Australia – Work Health and Safety Section:

Phone: 02 9406 1000 Email: WHS_Support@Coffey.com Web: www.coffey.com

LEGISLATIVE REQUIREMENTS — ASBESTOS

This document has been produced for information only and is under regular review due to frequent changes in legislation and guidance. It contains information relating to the column headings only and not, for instance, in relation to asbestos removal. It is the duty of employers, premise owners and controllers of premises etc. to ensure they are familiar with the latest applicable state legislation and guidance.

STATE **Primary Asbestos Legislation**	**Asbestos Survey Requirements**	**Asbestos Resurvey Requirements**	**Reporting Requirements**	**Management and Labelling/Signage Requirements**	**Other Requirements**
COMMONWEALTH ***NEW SOUTH WALES*** ***QUEENSLAND*** ***NORTHERN TERRITORY*** ***TASMANIA*** ***SOUTH AUSTRALIA*** *Work Health and Safety Act 2011 (Cth, NSW, NSW, TAS, SA)* *Work Health and Safety Regulations 2017 (Cth, NSW, NSW, TAS, SA)* *Work Health and Safety (National Uniform Legislation) Act and Regulations 2017 (NT)* *Supported by:* *Code of Practice - How to Manage and Control Asbestos in the Workplace (2016)* *Code of Practice - How to Safely Remove Asbestos (2016)*	A person conducting a business or undertaking (PCBU) must, for work place buildings/ structures that are constructed prior to December 31, 2003; • survey to identify and locate any Asbestos-containing Materials (ACM; and, • Compile and keep at the workplace a site specific Asbestos Register. If ACM is identified at the work place, an Asbestos Management Plan (AMP) is to be compiled for the management of the identified ACM. The Asbestos Register and the Asbestos Management Plan must be made available at the work place for workers, people intending to conduct business at the work place and to Health and Safety representatives.	Re-inspections of identified ACM are determined on a case-by-case basis depending on the risk situation and should be informed by and conducted in accordance with the site specific Asbestos Management Plan.	The site specific Asbestos Register needs to include the date, type, location, condition and ACM identified during the survey. The Asbestos Register must be maintained and also updated if: • the AMP is under review, • further ACM is identified and/or, • ACM is removed, disturbed or encapsulated. The site specific AMP must include management actions and justifications, incident and emergency response plans and record details of works carried out that involves ACM at the work place. The AMP must be maintained and updated: • when the Asbestos Register is under review, • if asbestos is removed, disturbed or encapsulated, • if the AMP is no longer adequate for managing the ACM, • if a Health and Safety Officer requests a review and/or at least • Once every 5 years.	Generally, health monitoring is not required excepting for workers involved in asbestos removal works. Training is required for persons involved in asbestos removal work or carrying out asbestos related works. All identified ACM in a workplace has to be labelled to indicate clearly asbestos presence and location of the asbestos item. Before refurbishment or demolition: • ensure Asbestos Register is current • undertake necessary inspections A licenced asbestos removalist is required unless: • ACM < 10m2 and non-friable and then by a competent person	WHS Regulation 419 requires A person conducting a business or undertaking (PCBU) must not carry out, or direct or allow a worker to carry out, work involving asbestos; excepting as is applicable: • managing risk; • sampling, identification and analysis; • maintenance • removal/disposal • other exemptions per s.419 (3)