

Office of Sport

**Asbestos and Hazardous Material Management
Plan**

Sydney International Regatta Centre

Gate A, Old Castlereagh Rd, Castlereagh NSW 2749

28/03/2023



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Asbestos and Hazardous Materials Management Plan

Prepared for

Office of Sport

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Table of contents

1	Purpose of Document.....	1
1.1.	Document Retention	1
1.2.	Re-inspection and Review Requirements.....	1
2.	Introduction.....	2
2.1.	Objective	2
2.2.	No Access Areas.....	3
3.	Methodology	3
3.1.	Asbestos Fibre Identification.....	4
3.2.	Asbestos and Hazardous Materials Survey.....	4
4.	Responsibilities.....	4
4.1.	License Requirements	7
5.	Controlling Asbestos Hazards.....	7
6.	Risk Assessment.....	8
6.1.	Suspect Materials.....	10
6.2.	Risk Assessment Factors for SMF.....	11
6.3.	Risk Assessment Factors for PCB.....	12
6.4.	Risk Assessment Factors for LBP.....	12
6.5.	Risk Assessment Factors for LCD.....	12
6.6.	Risk Assessment Factors for ODS.....	13
7.	Managing in-situ Asbestos	13
7.1.	Asbestos Identification	13
7.2.	Asbestos Monitoring.....	13
7.3.	Asbestos Material Labelling and Signage.....	13
8.	Record Keeping.....	14
9.	Asbestos Removal Control Plan.....	15
10.	Tools and Equipment	15
11.	Removal of Asbestos-Containing Materials	16
11.1.	Removal Requirements.....	16
11.2.	Control Measures	16
11.3.	Air Monitoring Requirements for Asbestos Removal Work.....	17
11.4.	Storage and Disposal of Asbestos.....	18
11.5.	Hygienist during Removal Works.....	18
12.	Maintenance Procedures	19
13.	Personal Protective Equipment (PPE)	19
14.	Workplace Exposure Standards.....	20
15.	Emergency procedures	21

16. Training and Awareness.....	23
17. Glossary	23
18. References	26

Appendices

Appendix A - Asbestos Materials Control Log

Appendix B - Legislative Requirements and Additional Information

Appendix C - Asbestos Removal Control Plan Checklist

1 Purpose of Document

The purpose of an Asbestos and Hazardous Materials Management Plan (AHMMP) is to provide guidelines for persons conducting a business or undertaking (PCBU) to comply with current Work Health and Safety Regulations - specifically Chapter 8 Asbestos and prevent exposure to airborne asbestos fibres while Asbestos Containing Materials (ACM) remain in the workplace.

Where the evaluation process reveals a likelihood of exposure to asbestos fibres, all practicable steps will be taken to ensure that employees and others are not unnecessarily exposed.

1.1. Document Retention

This Asbestos and Hazardous Materials Management Plan (AHMMP) is to be held at the workplace and in the Premise's Property File. The asbestos and hazardous materials register and AHMMP are to be available for use by the following:

- Authorised Work Cover Inspectors;
- Property owners;
- Employers and workers;
- People intending to conduct business at the premises; and
- Health and Safety Representatives.

Any contractor or service person required to undertake works at the premises must examine the Register of Asbestos and Hazardous Materials and determine whether their work activity will involve handling, replacing or potentially disturbing the materials as noted in the register. If ACM is identified at the site then the AHMMP must also be referred to.

Should a contractor or service person handle, replace or carry out works that may disturb an item in the Asbestos and Hazardous Materials Register, there must be compliance with all workplace regulations and procedures covering the handling of such materials.

If the person conducting a business or undertaking (PCBU) with management or control of a workplace relinquishes management or control of the workplace, the person must ensure that the Asbestos and Hazardous Materials Register Report is given to the person/s that will be assuming management or control of the workplace.

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

1.2. Re-inspection and Review Requirements

In accordance to Work Health and Safety Regulation 2017, if there is ACM or suspected ACM identified at the time of the survey, then a site-specific HMMP has to be compiled to outline the management practices for the ACM at the site. Re-inspections of the ACM should be as specified within the AHMMP.

The Asbestos and Hazardous Materials Register must be maintained and updated if the following circumstances:

- If the AHMMP is under review;
- If further ACM is identified at the premises;
- If ACM is removed or encapsulated; and or
- If the condition of the ACM changes i.e. by being damaged physically or by weathering.

2. Introduction

Tetra Tech Coffey Pty Ltd (Tetra Tech) was engaged by Office of Sport NSW to conduct an asbestos and hazardous materials reinspection of the Sydney International Regatta Centre located at Gate A, Old Castlereagh Rd, Castlereagh NSW 2749 (the site) and prepare and assist in implementing asbestos and hazardous material management strategies to reduce potential exposure to as low as practicable.

Steph Hall and Phoebe Quessy of Tetra Tech carried out the reinspection for asbestos material occurrences and associated potential exposure risks on the 1st and 2nd of March 2023. The assessment was conducted on the basis of the condition of the materials at the time of inspection.

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. Future demolition and or renovation to site structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

For the purposes of this AHMMP, Coffey included the following hazardous materials and will be referred to hereafter as 'hazardous materials':

- Asbestos-containing materials (ACMs);
- Synthetic mineral fibre (SMF) materials;
- Polychlorinated biphenyls (PCBs) containing capacitors in electrical fittings;
- Lead-based paint (LBP);
- Lead-containing dust (LCD); and
- Ozone depleting substance (ODS) within air-conditioning units and chillers.

This AHMMP has been developed in accordance with current New South Wales state legislation, industry standards, codes of practice and guidance documents for the management of hazardous materials in workplaces.

2.1. Objective

The objective of this AHMMP is to manage hazardous materials at the site and minimise the risk of exposure to hazardous materials for employees, contractors and subcontractors that work at the site. To accomplish this objective, the AHMMP specifies work practices and procedures to:

- Maintain the hazardous materials in good condition;
- Ensure the implementation of control strategies;
- Monitor the condition of the hazardous materials;
- Minimise the possibility of accidental damage or exposure of personnel and others, to hazardous materials; and
- Ongoing management strategies for hazardous materials at the site.

The AHMMP has been developed for the site and all site occupants. The AHMMP is to be referred to and after a suitable training program, The Office expects all site personnel to understand their responsibilities with regards to the AHMMP. This AHMMP has been developed solely for the use of The Office at the site.

The AHMMP must be made available to, and understood by, all persons involved in the management and operation of the site. Personnel at the site, nominated to have responsibilities under this AHMMP, should be aware of the presence of hazardous materials at the site and the associated management requirements.

The AHMMP should be referred to regularly and updated and maintained by the Management Plan Controller when any hazardous materials are disturbed, removed or repaired. The AHMMP should be

updated on a regular basis by a competent person or hygienist/asbestos assessor, as nominated by the Management Plan Controller.

2.2. No Access Areas

Where Areas of No Access were identified it was presumed that hazardous materials were present. However, further investigation can confirm or refute the presence of these materials.

3. Methodology

Asbestos material 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 asbestos materials identified during the survey and prioritised through Risk and Action Classifications.

The assessment involved an onsite investigation for the presence of Asbestos Containing Materials (ACM) and other Hazardous Materials i.e. SMF, ODS, LPB & PCB's. Information was collected from the site owners/occupiers/tenants on relevant issues pertaining to the site. Based on the available data and the status of the site at the time of inspection, where items were identified, visual and/or analytical characterisation (where required) was performed and reported in **Appendix A – Asbestos and Hazardous Materials Register** of the report **754-SYDEN311850 - Sydney International Regatta Centre - HMRR – 01032023**.

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 Tetra Tech 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.

Onsite investigations cannot guarantee to locate the presence of restricted locations such as inline heaters in air conditioning systems. Whilst every effort will be made by the Consultant to locate and sample restricted areas, further access and detailed investigation may be required with the assistance of contractors and/or electricians.

Asbestos material 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.

Where the surveyor encounters access restrictions during the survey, these situations are documented and reported.

No assessment can be regarded as absolute. Future breaking up or refit, repair or rebuild of vessels may reveal materials concealed during the assessment, which were not accessible at the time of the Survey.

The register is made up of relevant information gathered on site plus Tetra Tech'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.

3.1. Asbestos Fibre Identification

Samples taken from suspected asbestos-containing materials are representative of the material sampled, individually identified, transported, analysed and reported in accordance with the National Occupational Health and Safety Commission (NOHSC) Guidelines, relevant Statutory Regulations, Codes of Practice and Tetra Tech Work Instructions. Laboratories undertaking analysis are appropriately NATA certified for the analysis conducted.

The presence of asbestos in a bulk sample is determined by Polarised Light Microscopy (PLM) with dispersion staining techniques.

3.2. Asbestos and Hazardous Materials Survey

Asbestos and Hazardous Materials Surveys are non-destructive and as such are not intended for use or referral for the purpose of demolition of, refit, repair or rebuild and modification or structural alterations. In the event of future demolition, refit, repair or rebuild and modification or structural alterations further investigation, which may entail destructive testing, shall be required.

No inspection can be guaranteed to locate all asbestos within the building. The assessment cannot be regarded as absolute, without extensive invasive investigation. Future demolition or modification to structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

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

4. Responsibilities

The key personnel responsible for the implementation and maintenance of the AHMMP include:

- Person conducting a business or undertaking (PCBU) with management or control of a workplace,
- Engineering/Facilities/Maintenance/Asset Managers (referred to in the table below as FM).

Others required to comply with directives of the AHMMP include:

- Contractors and trades staff,
- Staff, their Health and Safety Representatives and visitors.

Table 1 - Responsibilities

Responsible Person/s	Action
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Commission reviews of asbestos registers and the Asbestos Management Plan, including updates in legislative requirements as necessary. Include all ACM in the review if changes to conditions occur.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensuring the content within the AHMMP is reviewed and updated following any changes in the workplace or work practices.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Populating the action program within the AHMMP and coordinating the actions required.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Commission the inspection and identification (including labelling and re-inspections) of asbestos materials and other hazardous building materials at required frequencies.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensure procedures are in place for the control of contractors or personnel who may come into contact with ACM during the course of their work.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensure resources and support are made available to the site controllers/tenants to initiate and progress AHMMP issues.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Liaising with site controllers/tenants and providing immediate response to emergency situations involving asbestos.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensuring communication and training strategies are in place as necessary for contractors and relevant personnel.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Liaise with other responsible personnel on relevant matters relating to asbestos materials management and ensure that all concerns about asbestos are dealt with in a timely and satisfactory manner.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensure that the necessary asbestos materials work methods, control measures and safety standards meet the required standard.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensure that licensed contractors are engaged (as per National Regulations) for 'friable' asbestos work and competent contractors are engaged for the maintenance or removal of other asbestos products. Ensuring the contractor has obtained necessary approvals from the regulatory authorities prior to such work.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Consulting with all relevant stakeholders regarding proposed and existing asbestos materials control measures or unplanned disturbance to those materials.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensuring that employees/site controllers/tenants and other stakeholders at the Subject Site have been suitably informed and consulted with regarding asbestos materials, risks, safety precautions and adopted control measures.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Maintain the Register, air-monitoring records, identification analyses records, records of asbestos control and removal, and

Responsible Person/s	Action
	ensure the AMR are updated following any site inspections and/or remedial works.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Ensure a current copy of the Register and all required site documentation are maintained in a current and readily accessible condition for viewing by stakeholders.
PCBU with management or control of a workplace / FM	<p>Demolition and Refurbishment Work</p> <ul style="list-style-type: none"> • prior to demolition or refurbishment work starting, must review the asbestos register and ensure all asbestos that is likely to be disturbed is identified and removed so far as is reasonably practicable • must provide a copy of the asbestos register to the person carrying out the demolition or refurbishment work before the work commences • must, if an emergency occurs and a structure or plant is to be demolished, ensure that before the demolition occurs there is a procedure to reduce the risk of exposure to asbestos to below the exposure standard and notify the regulator about the emergency.
Site Manager	<ul style="list-style-type: none"> • Ensure on-site adherence to procedures in place for the control of contractors or personnel who may come into contact with ACM's during the course of their work.
Site Manager	<ul style="list-style-type: none"> • Ensure that the Register is made available to contractors or workers requiring such information as part of their work.
Site Manager	<ul style="list-style-type: none"> • Provide an immediate response to emergency situations or incidents involving asbestos.
Site Manager	<ul style="list-style-type: none"> • Ensure that a risk assessment is conducted for any operation that is possible to disturb asbestos building materials.
Site Manager	<ul style="list-style-type: none"> • Arrange or undertake site inductions for staff and contractors, and provide advice, training and consultation (internally or externally) to personnel regarding asbestos materials issues, if required.
Site Manager	<ul style="list-style-type: none"> • Audit asbestos management procedures and assist with reviews of the AHMMP.
Site Manager	<ul style="list-style-type: none"> • Providing all necessary information and instruction to contractors attending and working on site in relation to asbestos materials hazards, control measures and required work procedures.
Site Manager	<ul style="list-style-type: none"> • Ensure all incidents involving the actual or potential exposure of persons to asbestos are immediately reported and investigated and that recommendations are closed out.
Contractor	<ul style="list-style-type: none"> • Consult with the Subject Site Supervisor/tenant on entering the Subject Site. • Look after their own safety and health, and the safety and health of other employees and contractors.

Responsible Person/s	Action
	<ul style="list-style-type: none"> • Ensure that they carry out their work in compliance with relevant legislation and the organisation's safe work methods and demonstrate an acceptable level of safety performance. • Ensure that the right person is employed for each job, taking into account the type of work to be performed, the licences, training, certificates and qualifications required. • Immediately report any incident, injury, or hazards and any incidents of non-compliance with the AHMMP that has or may have occurred. • Not to impact on any asbestos material without complying with the AHMMP. • To bring to the attention of the Site Supervisor any suspect material. • Refer to AHMMP for guidance to identify, manage, and remove asbestos and other hazardous building materials. • Submit Risk Assessments and Health, Safety and Environment Plans when performing asbestos materials removal work. • Undergo Contractor Induction. • Develop a site-specific asbestos removal control plan prior to performing the removal work.
<p>All Workers, their health and safety representatives, tenants and visitors</p>	<ul style="list-style-type: none"> • Ensuring they are familiar with the AHMMP as necessary. • Supporting facilitated activities relating to ACM management. • Comply with the AHMMP. • Not to impact on any asbestos materials. • Report asbestos related hazards. • Protect themselves and others in the Subject Site.

4.1. License Requirements

- **Friable asbestos** – If asbestos is friable, and it has been determined that it should be removed, it must be removed by a Class A licensed removalist.
- **Non-friable asbestos** – If asbestos is non-friable, is more than 10m², and has been determined that it should be removed, it must be removed by a minimum of a Class B licensed asbestos removalist.

5. Controlling Asbestos Hazards

Control measures will be implemented based on the level of risk of exposure to asbestos containing materials. The control measures must be aimed at eliminating risk arising from ACM and prevent exposure to airborne asbestos fibres. After elimination, the methods adopted should follow the remaining levels within the hierarchy of controls. The following information should be used as a guide when determining the correct control method for effective ACM management.

- If the ACM is friable and not in a stable condition, and there is a risk to health, it must be stabilised (such as the recent application of a paint sealant to the exposed vinyl floor sheeting edges) or removed by a licensed asbestos removalist as soon as practicable.
- If the ACM is friable but is in a stable condition and is accessible, consideration should be given to its removal. If removal is not immediately practicable, short term control measures, such as sealing and enclosure, may be used until removal is possible.
- If the ACM is not friable and is in a good stable condition, minimising disturbance and encapsulation may be appropriate controls.
- Any remaining ACM is to be clearly labelled, according to the How to Manage and Control Asbestos in the Workplace, National Code of Practice, where possible, and regularly inspected to ensure it is not deteriorating or otherwise contributing to an unacceptable health risk.

ACM needs to be removed before demolition, partial demolition, renovation or refurbishment if it is likely to be disturbed by those works.

6. Risk Assessment

The risk assessment is explained, in the tables below. Our semi-quantitative risk assessment borrows elements from the materials risk assessment documented in HSG264: Asbestos: The survey guide – HSE and the priority risk assessment documented in HSG 227: A comprehensive guide to Managing Asbestos in premises – HSE, providing an element of quantification to the qualitative nature of site risk assessment.

Some of the elements of these well documented risk assessments have been omitted. Most notably the asbestos type from the materials risk assessment, as all types of asbestos are listed by the International Agency for Research on Cancer (IARC) as Type 1 Carcinogens. In addition, we have omitted the maintenance activity from HSG 277. The reason being that human risk factors associated with maintenance activities are often difficult to assess in-situ and require detailed input from the Person in Control of a Business of Undertaking (PCBU).

The risk assessment then takes into account all other Hazardous materials and utilizes similar algorithms to create a risk assessment for those materials.

The asbestos containing material risk score is a quantitative assessment determined by the sum of the scores based on the material assessment and the likelihood of exposure, i.e. Risk score = Material Score + Location Score (out of as possible 18).

An explanation of the material assessment and likelihood of exposure scores can be found in the tables below.

Table 2 - Risk Scores

Overall Risk Assessment Score	Overall Risk Rating
0 – 4	Very Low
5 – 8	Low
9 – 13	Moderate
14 – 18	High

Table 3 - Product Type (or debris)

Examples of Materials – Asbestos	Score
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Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc.)	1
Asbestos insulating board, mill boards, other low-density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt	2
Thermal insulation (e.g., pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing	3

Table 4 - Extent of Damage or Deterioration

Examples of Materials – Asbestos	Score
Good condition: no visible damage	0
Low damage: a few scratches or surface marks; broken edges on boards, tiles etc.	1
Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres	2
High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris	3

Table 5 - Surface type and treatment

Examples of Materials – Asbestos	Score
Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles	0
Enclosed sprays and lagging, asbestos insulating board (with exposed face painted or encapsulated), asbestos cement sheets etc.	1
Unsealed asbestos insulating board, or encapsulated lagging and sprays	2
Unsealed laggings and sprayed asbestos	3

The following terminology is used within the register to describe the materials identified

Material Descriptors

- CH Chrysotile (white) Asbestos
- CR Crocidolite (blue) Asbestos
- AM Amosite (brown) Asbestos
- NAD No Asbestos Detected
- ACM Asbestos Containing Material or product
- SMF Synthetic Mineral Fibre
- PCB Polychlorinated Biphenyls

Pb	Lead
NLD	No Lead Detected
HFC	Hydrofluorocarbons
HCFC	Hydrochlorofluorocarbons
CFC	Chlorofluorocarbons

Acronyms

NOHSC	National Occupational Health and Safety Commission
NATA	National Association of Testing Authorities, Australia
A/C	Air Conditioning
F/C	Fibre Cement
PLM	Polarised Light Microscopy
SEM	Scanning Electron Microscopy
EDAX	Energy Dispersive X-ray Analysis
AAS	Atomic Absorption Spectroscopy

Units of Measurement

m	Metre	L	litre
m ²	square metres	mg/L	milligrams per litre
m ³	cubic metres	mg/kg	milligrams per kilogram
km	kilometre	fibre/mL	fibres per millilitre
mg	milligram	mL	millilitre
kg	kilogram	%	percentage
µF	micro-Farads		

6.1. Suspect Materials

Should materials of unknown composition, or materials suspected of containing asbestos be encountered on site and are not documented in the existing asbestos register, such materials should be treated as if they are ACM until sampled and NATA accredited laboratory analysis confirms otherwise. In the event that additional ACM are identified, a risk assessment shall then be conducted by an appropriately qualified and competent person. For example, in the event that demolition or refurbishment works are to be carried out in areas previously not inspected for the presence of ACM - such as inaccessible wall cavities or beneath floors, an inspection and risk assessment should be performed by a competent person prior to the commencement of the planned demolition/ refurbishment works.

The risk assessment of the ACM is to be reviewed when:

- The AHMMP is reviewed;
- Further asbestos or ACM is identified at the Workplace;
- There is evidence that control methods are not effective;
- A significant change is proposed for the workplace or for work practices or procedures relevant to the risk assessment such as major refurbishment or demolition;
- There is a change in the condition of the ACM;
- The asbestos material has been removed from or disturbed, enclosed or sealed.

The frequency of the inspections will also take into consideration whether the ACM:

- Has a high propensity to release airborne asbestos fibres;
- Is in poor condition;
- Is likely to be damaged or further deteriorate;
- Likely to be disturbed due to work practices in the Workplace;
- Is in an area where workers are exposed to the material.

In any case a risk assessment review for asbestos is to be conducted at least once every five years to ensure it is kept up-to-date (except for WA sites where the review needs to be conducted once every 3 years). This is to be organised by PCBU with management or control of a workplace and must be performed by a Competent Person.

6.2. Risk Assessment Factors for SMF

SMF building materials are defined as either being un-bonded or bonded. Un-bonded SMF materials are defined as those manufactured without the use of any binding agents, facing/cladding or other sealants or the binder as deteriorated. There are two main applications of manufactured un-bonded materials, wet spray and loose fill. Un-bonded SMF also refers to severely deteriorated thermal insulation, batts and debris, and any other instance of SMF where fibres can be released with only minimal disturbance. Bonded SMF materials are defined as those manufactured using binding or sealing agents to hold the fibre in a batt or blanket form.

The selection of the most appropriate control measure for SMF material should be determined through a risk assessment process that includes a detailed knowledge of the workplace and activities likely to be conducted in the area containing the SMF material. The following principles may be applied:

- If the SMF material is un-bonded or deteriorated, in a poor/unstable condition and accessible with risk to health from exposure, then immediate access restrictions should be applied and removal is required as soon as practicable.
- If the SMF material is un-bonded or deteriorated, in a poor/unstable condition but in inaccessible areas (i.e. ceiling space), then removal is preferred. Nevertheless, 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) may be employed until removal can occur.
- If the SMF material is bonded and in a poor/unstable condition; then minimising disturbance, removal or encapsulation may be appropriate controls.
- For bonded SMF material in a good and stable condition, ongoing maintenance and periodic inspection of the material to ensure it is not deteriorating would be appropriate controls.
- Prior to any demolition, partial demolition, renovation or refurbishment works, SMF materials likely to be disturbed by these works should be removed in accordance with the *Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC:2006 (1990)].

Airborne SMF monitoring of the area containing the material can provide the basis of a risk assessment to address the most appropriate control measures and the urgency required for the implementation of the measures.

6.3. Risk Assessment Factors for PCB

For the purpose of this AHMMP only capacitors within electrical equipment, such as fluorescent light fittings and ceiling fans were included.

To assess the health and environmental risk posed by the presence of PCB-containing capacitors within electrical equipment and transformers, the relevant factors must be considered. These factors include:

- **Demolition/refurbishment works** that are likely to disturb the PCBs;
- The **condition** of the capacitor is determined by a visual inspection of the fitting, and internal capacitor where safe access is available. This will determine the level of priority and control measures required during removal of the fittings from service;
- The **accessibility** to PCB-containing capacitors is determined by the priority of the area in which the materials are located;
- The **likelihood** of human and/or environmental exposure to PCBs during occupational activities; and
- Quantity of PCB-containing capacitors at the site. The quantity is based on the aggregate weight of all PCBs on the premises.

6.4. Risk Assessment Factors for LBP

In accordance with Clause 392 of the NSW *Work Health and Safety Regulation, 2017* a lead process is commenced, where lead is machine sanded, grinded or buffed. Lead paint, as defined by the AS 4361.2 – 2017 *Guide to Hazardous Paint Management – Part 2: Lead Paint in Residential, Public and Commercial Buildings*, is that which contains in excess of 0.1% lead by weight.

The selection of the most appropriate control measure for lead exposure should be determined through a risk assessment process that includes a detailed knowledge of workplace activities likely to impact on lead-containing paints. Risk of lead exposure through lead-containing paint is based on the following factors:

- **Demolition/refurbishment works** that are likely to disturb the LCPs;
- The **condition** of the lead-containing paint. Paint that is flaking or in a poor condition is more likely to be ingested than paint that is in a good and stable condition; and
- The **likelihood** of inhalation or ingestion by people working in the vicinity of the paint.

6.5. Risk Assessment Factors for LCD

Confirmed lead containing dust within the ceiling spaces and throughout the refinery should be removed prior to demolition works in accordance with Australian Standard (AS4361.2); 2017, Guide to Hazardous Paint Management Part 2: Residential, public and commercial buildings.

Any work processes involving lead containing dust must be undertaken in a manner to ensure that no worker is exposed to lead at concentrations above occupational exposure standard (OES) of 0.05 mg/m³ over an eight-hour day. Furthermore, the levels should not exceed 0.03 mg/m³ at the boundary of the regulated area, i.e. boundary of area surrounding a lead removal worksite, where it can be reasonably expected not to exceed the OES.

Lead-containing dust removal works should include the use of High Efficiency Particulate Air (HEPA) filtered vacuum cleaners and wet wiping techniques by a licensed contractor under controlled lead-containing dust conditions, along with appropriate PPE and personal decontamination procedures in place.

6.6. Risk Assessment Factors for ODS

For the purpose of this AHMMP only ODS within in air conditioning units and chillers were included.

The inspection visually identified stored refrigerants in accessible areas. The status of suspected ODSs were compared to the United Nations Environment Programme's Division of Technology, Industry and Economics (UNEP DTIE) *Inventory of Trade Names of Chemical Products Containing Ozone Depleting Substances and their Alternatives* and the Australian Institute of Refrigeration Air Conditioning and Heating Inc (AIRAH) *Air Conditioning and Refrigeration Industry Refrigeration Selection Guide 2003*. The risk assessment factors utilised in this report relate to the potential of exposure of personnel (excluding programmed hazardous material removal works). This assessment is based on the following factors and properties of the ODS, particularly:

- Risk potential;
- Condition;
- Location and accessibility; and
- Potential of disturbance and ongoing deterioration.

7. Managing in-situ Asbestos

The management of in-situ asbestos is important to ensure ACMs are not damaged or deteriorate to such an extent that employees, patients, external contractors, or visitors are unnecessarily exposed to airborne asbestos fibres.

7.1. Asbestos Identification

Products suspected of containing asbestos and requiring identification are to be referred to the Building Manager who will arrange for sample analysis to be undertaken.

WHEN IN DOUBT TREAT THE PRODUCT AS ASBESTOS CONTAINING MATERIAL UNTIL IDENTIFIED AS OTHERWISE.

The results of all samples analysed for asbestos identification will be recorded on the Asbestos Materials Register.

7.2. Asbestos Monitoring

Monitoring is to occur before, during and after planned asbestos removal work in accordance with the asbestos removal control plan.

7.3. Asbestos Material Labelling and Signage

A labelling system (stickers) is established and must be maintained on site to enable the visual and legible identification of ALL asbestos materials recorded on the Asbestos Materials Register. The labels are fixed to the area and are to be maintained in-situ at all times.

The labels used must comply with AS 1319 Safety Signs for the Occupational Environment, and a competent person is to determine their required location. The labels are to be affixed in a secure manner and checked annually to ensure they are not damaged, missing, obscured or faded.

If a risk assessment suggests an ACM might be disturbed or persons might be exposed and it is not practical to label the ACM (e.g. ceiling panels, furnaces or a friable ACM such as lagging) a prominent warning sign, specifying the ACM, is to be posted in the immediate vicinity. If floor tiles have been identified as containing asbestos, an appropriate warning sign, displayed on an adjacent wall might read, "WARNING FLOOR TILES CONTAIN ASBESTOS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT." Warning signs should be placed at the main entrance to the work areas where asbestos is present. This will ensure that asbestos is not unknowingly disturbed without the correct precautions being taken.



8. Record Keeping

A complete record of all activities and work permits relating to asbestos works, which have been undertaken at the site is to be maintained. The records that are to be kept include:

- Copies of all asbestos survey reports, including updates and amendments
- Copies of all permit to work documents
- Site induction records pertaining to the information disseminated to contractors
- Prior to conducting work onsite
- Induction records pertaining to the information disseminated to employees regarding the presence of asbestos onsite
- Asbestos Removal Control Plans for asbestos removal works
- Records of any removal or other asbestos related works onsite
- Clearance certificates indicating areas are safe to reoccupy after asbestos removal works
- Asbestos fibre air monitoring results
- All versions of the asbestos register

- Records dealing with Regulated and Trackable Waste and landfill disposal documentation.

Re-inspections of all ACM remaining on site are to be conducted by a suitably qualified person only. The re-inspection process will involve a visual assessment of the materials to determine if there has been any deterioration since the last inspection and, if so, what course of action should be taken i.e. temporary encapsulation, isolation or immediate removal.

Once the re-inspection has been completed, the Asbestos Containing Materials Register is to be updated accordingly.

9. Asbestos Removal Control Plan

If it is determined, after consultation with the asbestos register, that ACM is present in the vicinity of the planned works will need to be removed, an Asbestos Removal Control Plan (ARCP) will be required (if it is considered licensed asbestos removal work - i.e. more than 10m² of bonded ACM (or any friable ACM)).

The ARCP is designed to ensure appropriate work practices are employed in the vicinity of ACM. The ARCP will document what ACM is to be removed, encapsulated or otherwise protected prior to the contracted maintenance or building works proceeding. The ARCP will also indicate other requirements such as the need for personal protective equipment (PPE), barricading and airborne fibre monitoring.

In addition to the ARCP an Asbestos Removal Checklist must be completed by the managing contractor and issued to the client with supporting documentation prior to site mobilization. The checklist will include details of the removal contractor, supervising hygienist, licenses (Class A/B license), insurances and safe work method statements. When the work is completed, the checklist will be returned to facility manager who will ensure that a clearance certificate and waste disposal certificate is provided. The Facility Manager will retain copies of all ARCP, JSEAs and work method statements with the site asbestos register.

Refer to Appendix C of the Asbestos Management Plan for the contents of the ARCP.

10. Tools and Equipment

Tools and equipment to be used for asbestos removal work are required to generate a minimum amount of airborne fibres during use. High-speed abrasive power or pneumatic tools such as angle grinders, sanders, saws, and high-speed drills MUST NEVER be used. Hand tools only are permitted.

At the end of the removal work all tools are to be either:

- Decontaminated (i.e. fully dismantled and cleaned under controlled conditions)
- Placed in a sealed container and used only for asbestos removal work
- Disposed of as asbestos waste

Prohibited Practices

Work practices that are prohibited include:

- Work practices in the vicinity of asbestos materials that may disturb or damage the material, cladding, enclosure, sealant or containment barrier;
- Workers using a high-pressure water process to clean an asbestos product or to clean up debris from an asbestos product;

- Workers using compressed air to clean an asbestos product or a surface where debris from an asbestos product is present.

11. Removal of Asbestos-Containing Materials

11.1. Removal Requirements

A detailed site-specific Asbestos Removal Control Plan is to be developed by the asbestos removalist prior to commencing licenced ACM removal work and a copy must be given to the person who commissioned the work and be readily accessible on-site to PCBU, workers, their health and safety representatives and any occupants. Any ACM removal work shall be performed by a reputable, licensed asbestos materials removalist, in accordance with the relevant state WHS regulations and Code of Practice/Compliance Codes. Where applicable the regulator will be notified in writing five days prior to the commencement of the works.

11.2. Control Measures

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

If the ACM is friable, 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 using a licensed removalist;

If the ACM are friable but are in a stable condition (e.g. rope seals) and are accessible, serious consideration should be given to their removal. If removal is not immediately practicable, short-term control measures, such as sealing, enclosure or similar and labelling may be able to be used until removal is possible;

If the ACM are not friable and are in a good, stable condition (e.g. cement panel) minimising disturbance, ongoing maintenance and periodic inspection would be appropriate controls. All damaged edges should be appropriately sealed, and the installation labelled;

All known or suspected ACM remaining on site should be appropriately labelled, where possible, and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health;

Prior to any demolition, partial demolition, renovation or refurbishment, asbestos containing materials likely to be disturbed by those works should be removed in accordance with the relevant State Code of Practice/Compliance.

If any unknown ACMs are discovered during any works on the property or there is a change in the condition of the known ACM situations all work should be stopped immediately, and the building/project manager notified. A Licensed Asbestos Assessor or Competent Person should be engaged to assess the potential risk from the materials, undertake asbestos air monitoring to determine the potential for further contamination from the materials and advise of the appropriate control measures.

It is the responsibility of the contractor undertaking any works on ACM to ensure:

- Workers who may be exposed to ACM are sufficiently protected to avoid personal injury or harm and to prevent asbestos fibre becoming airborne which may potentially contaminate other areas or affect others;
- Ensure there is project supervision by responsible persons to ensure employee exposure assessments, air monitoring, hygiene facilities, work barriers etc. are in place;

- Undertake project specific risk assessment of potential employee exposure to asbestos fibres and work methods to reduce the potential exposure to asbestos;
- Provide appropriate PPE and RPE such as P2 respirator (minimum), disposable coveralls, gloves and booties;
- Obtain appropriate license to undertake the removal/ remedial works;
- Maintain documentation including building permits, safety plans, work processes and environmental controls;
- Utilise appropriately trained employees;
- Undertake all work activities to protect the health of employees, tenants and members of the general public;
- Inform the PCBU, workers, the person who commissioned the work, and any occupants in the vicinity of the workplace of any potential hazards associated with the work activities;
- Written evidence of employee training and information;
- Provision of adequate ventilation (where applicable); and
- Transport and handle all ACM as contaminated waste and dispose at a licensed contaminated waste disposal facility.

11.3. Air Monitoring Requirements for Asbestos Removal Work

Asbestos air monitoring is *mandatory for all friable removals* and must be undertaken by a NATA accredited company for airborne asbestos monitoring. The individual conducting the air monitoring should be an independent licensed asbestos assessor or hygienist. Air monitoring is also to be considered when more than 10m² of bonded ACM (or any friable ACM) is removed to ensure control methods are adequate and also where the removal is being undertaken in or next to a public location.

The following table (extracted from the Model Code of Practice *How to Safely Remove Asbestos* (2020) (Section 3.11) outlines the action limits for air monitoring results.

Table 6 - Action Levels for Asbestos Air Monitoring Results

Action Level	Control	Action
Less than 0.01 fibres/ml	No new control measures are necessary	Continue with control measures
At 0.01 fibres/ml or more than 0.01 fibres/ml but less than or equal to 0.02 fibres/ml	1. Review	Review control measures
	2. Investigate	Investigate the cause
	3. Implement	Implement controls to eliminate or minimize exposure and prevent further release
More than 0.02 fibres/ml	1. Stop removal work	Stop removal work

	2. Notify regulator	Notify the relevant regulator by phone followed by fax or written statement that work has ceased and the results of the air monitoring
	3. Investigate the cause	Conduct a thorough visual inspection of the enclosure (if used) and associated equipment in consultation with all workers involved with the removal work.
	4. Implement controls to eliminate or minimise exposure and prevent further release	For example, extend the isolated/barricaded area around the removal area/enclosure as far as reasonably practicable until fibre levels are at or below 0.01 fibres/mL, wet wipe and vacuum the surrounding area, seal any identified leaks (e.g. with expandable foam or adhesive (cloth or duct tape) and smoke test the enclosure until it is satisfactorily sealed.
	5. Do not commence removal works until further air monitoring is conducted	Do not recommence until fibre levels are at or below 0.01 fibres/mL

11.4. Storage and Disposal of Asbestos

All asbestos waste shall be double bagged, using 200 µm (0.2 mm) thick polyethylene bags. Asbestos waste shall be bagged once at the workface and a second time away from the workface but prior to leaving the removal area enclosure. It is recommended that a maximum bag size of 1200 mm (length) x 900 mm (width) be used. Bags should be filled to no more than 50 per cent capacity, and contents should be wet before sealing. Consistent with good manual handling practice, bags should not exceed 16 kg in weight. The bags must be decontaminated before they are placed in waste bins. Each bag shall be labelled in accordance with Globally Harmonised System of Classification and Labelling of Chemicals (GHS) requirements on its outermost surface, with the following warning statement:

DANGER

ASBESTOS WASTE

DO NOT INHALE DUST

MAY CAUSE LUNG CANCER

Alternatively, other approved containers may be used. If waste bags are not suitable then the ACM is to be sealed in double lined heavy duty plastic sheeting before they are placed into the skip or for non-friable ACM, they may be placed directly into the waste bin that has been double lined with heavy duty plastic sheeting (200 µm minimum thickness), but it must be kept damp to minimise the release of airborne asbestos fibres. To comply with GHS requirements the top and side of each bin or container should be labelled with the words 'Danger: Asbestos do not break seal'.

11.5. Hygienist during Removal Works

Prior to the removal of any high-risk ACM, a Licensed Asbestos Assessor or Competent Person, with experience in asbestos materials removal works, shall be engaged, at the cost of the project, to work independently of the asbestos removal contractor.

In conjunction with the above requirements, the specific duties of the hygienist/assessor may include:

- Inspection of the integrity of the containment (smoke tests) prior to commencement of asbestos removal works;
- Inspection of the asbestos materials removalist's equipment, including but not limited to negative pressure air units (NPU's) and H-type HEPA vacuum equipment, water filtration systems, personal protective equipment (PPE) and hand tools;
- Assessment of the asbestos removalist's work methods, use and maintenance of PPE/RPE and decontamination procedures;
- Clearance (visual) inspection of the work area following the removal of ACM to ensure the ACM has been removed to a satisfactory standard; and
- Undertaking control and clearance air monitoring as required.

The Facility Manager is to notify the Branch Manager, Workers, Health and Safety Representatives, Contractors, Building Occupants and others providing details of the date, time and location of the removal works before they start as well as ensuring the Asbestos Removal Control Plan is adequate for the works to be undertaken.

12. Maintenance Procedures

Maintenance tasks that may involve ACM are to be addressed under controlled conditions, to prevent and minimise the risk of exposure of the maintenance personnel or any other person to airborne asbestos fibres. Appendix F of the Model Code of Practice *How to Manage and Control Asbestos in the Workplace* (2020) details procedures to be adopted for certain maintenance tasks. These are:

- Safe work practice 1 – Drilling for asbestos-containing material
- Safe work practice 2 – Sealing, painting, coating and cleaning of asbestos-cement products
- Safe work practice 3 – Cleaning leaf litter from gutters of asbestos cement roofs
- Safe work practice 4 – Replacing cabling in asbestos cement conduits or boxes
- Safe work practice 5 – Working on electrical mounting boards (switchboards) containing asbestos
- Safe work practice 6 – Inspection of asbestos friction materials.

13. Personal Protective Equipment (PPE)

The personal protective equipment requirements for work involving ACM at the Subject Site are to be based on the risk assessment.

The Model Code of Practice: *How to Safely Remove Asbestos* (2020) should be consulted to determine the PPE needs as well as AS/NZS 1715-1994 Selection, Use and Maintenance of Respiratory Protective Devices and AS/NZS 1716-2003 Respiratory Protective Devices.

The following table outlines the respiratory protective equipment required for any process that has the potential to disturb asbestos:

Table 7 – Minimum Respiratory Protective Equipment

Work Procedure	Required Respirator	Filter Type
Simple enclosure erection for containing undamaged asbestos materials to prevent	Disposable, half-face particulate respirators OR	P1 or P2

damage – no direct handling but possible disturbance of asbestos	Half-face, particulate filter (cartridge) respirator	
Inspection of the condition of any installed friable asbestos, which appears in poor condition or has been disturbed	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Sampling material for the purpose of identifying asbestos	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Removal of non-friable asbestos (e.g., asbestos cement sheets, ceiling tiles and vinyl tiles)	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Extensive sample operation on friable asbestos	Full-face, particulate, filter(cartridge) respirator	P3
Maintenance work involving the removal of small quantities of friable asbestos (e.g., replacement of friable asbestos gaskets and insulation)	Full-face, particulate, filter(cartridge) respirator	P3
Certain forms of wet stripping in which wetting is prolonged and effecting, and certain small-scale fry stripping operations	Full-face, particulate, filter(cartridge) respirator OR Full-face, positive pressure demand air-line respirator	P3
Certain forms of dry stripping and ineffective wet stripping (light wetting, no time given to saturate)	Full-face, particulate, filter(cartridge) respirator OR Full-face, positive pressure demand air-line respirator No lesser respirator will suffice	P3

Other PPE required includes, but is not limited to:

- Disposable coveralls
- Boot protectors

Disposable PPE and RPE filters used during the asbestos removal works should be treated as asbestos waste and disposed of in approved asbestos waste bags after completion of the works.

14. Workplace Exposure Standards

Asbestos Air Monitoring

It is the aim to keep personal exposure to ACM as low as reasonably achievable. Where occupational exposure to asbestos materials is likely to occur, exposure is not to exceed half the occupational exposure standards for each hazardous building materials type or category as published by the National Occupational Health and Safety Commission (Safe Work Australia).

Occupational exposure for asbestos is measured using the Membrane Filter Method, by collecting a sample of air from the breathing zone of a person, over a minimum of four hours duration.

The current National Exposure Standards TWA for asbestos are:

- Chrysotile (white) asbestos - 0.1 fibres/ml
- Amosite (brown) asbestos - 0.1 fibres/ml
- Crocidolite (blue) asbestos - 0.1 fibres/ml
- Other forms of asbestos or a mixture of asbestos types - 0.1 fibres/ml

15. Emergency procedures

An emergency situation is most likely to entail such a scenario where hazardous materials present on site have been inadvertently disturbed through actions by employees, site users, maintenance personnel, contractors, visitors, or damaged by severe weather conditions (e.g. hail or fire damage to a corrugated asbestos cement roof). Where such damage has occurred the Health and Safety Representative shall be notified immediately.

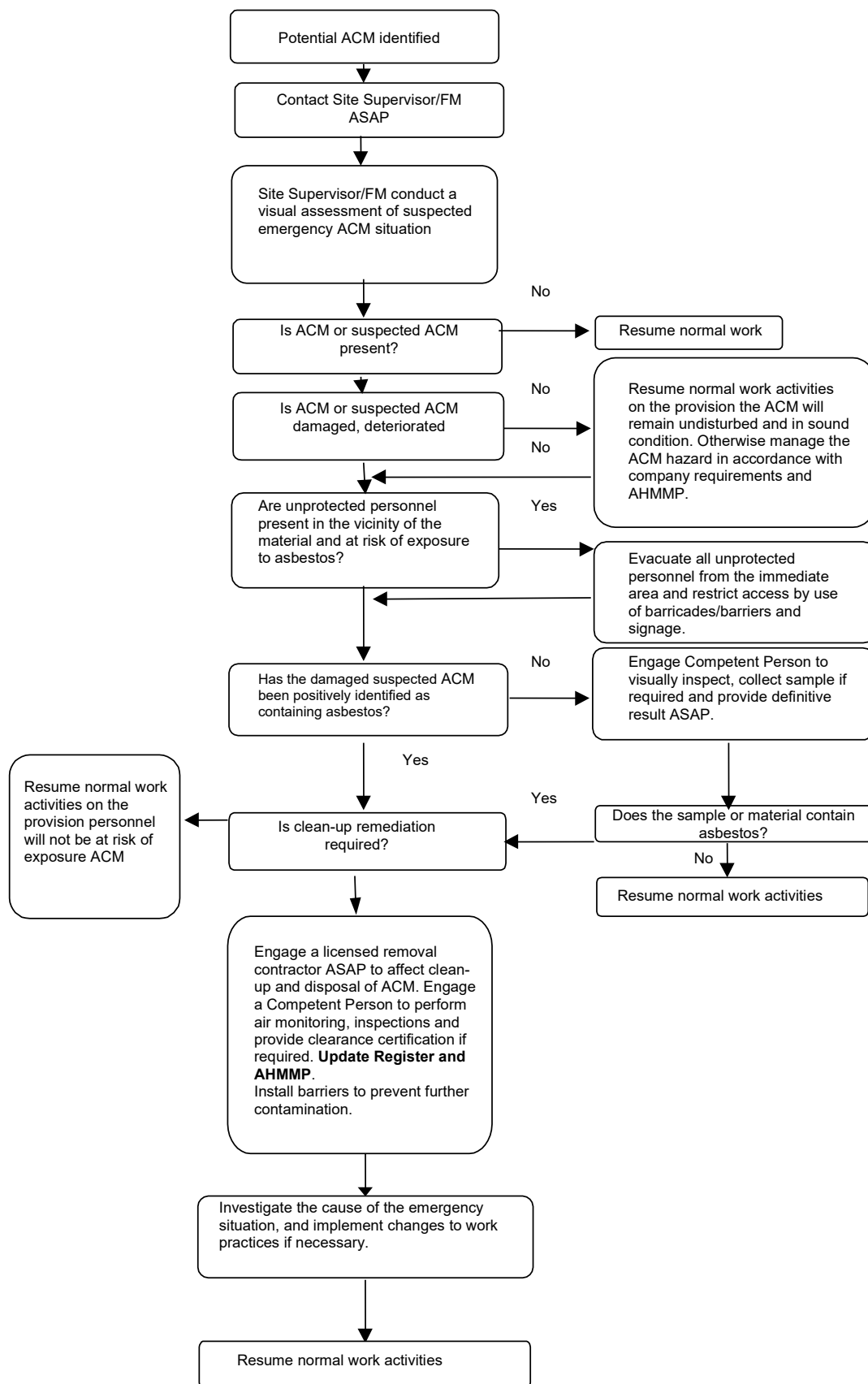
During any removal of any ACM an emergency within the building may necessitate the need to evacuate the building. The risks associated with any asbestos removal work should be assessed and include contingencies in the case of an emergency. Workers should be trained in the event of an emergency. Decontamination procedures can be temporarily waived in the event of an emergency and this is to be based on risk. The event likely to present in an emergency may include but not be limited to:

- Fire Evacuation;
- Chemical spill and contamination; and
- Gas leak/contaminated atmosphere hazardous to health.

In the case of the above situations requiring an emergency, Site supervisor, the Health and Safety Representative(s) should be notified immediately, and the area evacuated.

Other Emergency Response Procedures shall be initiated for non-evacuation events and implemented in accordance with the flow chart diagram in **Figure 1**.

Figure 1- ACM Emergency Response Flow Chart



16. Training and Awareness

A PCBU must ensure that information, training and instruction provided to a worker is suitable and adequate, having regard to:

- The nature of the work carried out by the worker;
- The nature of the risks associated with the work; and
- The control measures implemented.

Employees, contractors and others who manage or may come into contact with ACM at the Subject Site either directly or indirectly should be provided with asbestos awareness training. Such training may include the following topics:

- Purpose of the training;
- The health risks associated with Asbestos;
- Information on the presence of ACM, including the types of asbestos, uses and typical locations/likely occurrences where ACM may be encountered;
- The PCBU and the worker's roles and responsibilities under the Asbestos Management Plan;
- Where the Register is located, how to access it and understand the information contained within it;
- The timetable of asbestos materials removal;
- Process and safe work procedures to be followed to prevent exposure including accidental release;
- The correct use of PPE & RPE, implementation of controls measures and safe work methods to minimise the risks from ACM, limit the exposure to workers and limit the spread of asbestos fibres outside any asbestos work area;
- The relevant National Exposure Standards and control levels for asbestos; and
- The purpose of any exposure monitoring or health surveillance that may occur.

Records of Training must be kept whilst the worker is carrying out the work and for five years after the worker cease the work and be made available for inspection by the regulator.

17. Glossary

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 Vacuum 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 (2020)*.

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 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 organization 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.

18. References

Model Work Health and Safety Act 2019

Model Work Health and Safety Regulation 2021

Australian Standard AS1319, Safety signs for the occupational environment

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

Model Code of Practice *How to Manage and Control Asbestos in the Workplace* (2020)

Model Code of Practice *How to Safely Remove Asbestos* (2020)

National Occupational Health and Safety Commission (NOHSC), Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition, 3003 - 2005

National Occupational Health and Safety Commission (NOHSC), *List of Designated Hazardous Substances*, 10005 - 1999

Appendix A - Asbestos Materials Control Log

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Appendix B - Legislative Requirements and Additional Information

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The assessment, and preparation of this report have been undertaken in accordance with the requirements of State/Territories legislation and standards outlined below.

State/Territories relevant legislation

States & Territories	Acts	Legislation
Australian Capital Territory (ACT)	ACT Work Health & Safety Act 2011	ACT Work Health & Safety Regulation 2011
New South Wales (NSW)	NSW Work Health & Safety Act 2011	NSW Work Health & Safety Regulation 2017
Northern Territory (NT)	NT Work Health & Safety Act 2011	NT Work Health & Safety Regulation 2017
Queensland (QLD)	QLD Work Health & Safety Act 2011	QLD Work Health & Safety Regulation 2011
South Australia (SA)	SA Work Health & Safety Act 2012	SA Work Health & Safety Regulation 2012
Tasmania (TAS)	Tasmanian Work Health & Safety Act 2012	Tasmanian Work Health & Safety Regulation 2012
Victoria (VIC)	Victorian Occupational Health and Safety Act 2004	Victorian Occupational Health and Safety Regulation 2017
Western Australia (WA)	Occupational Safety and Health Act 1984	Occupational Safety and Health Regulation 1996

States/Territories code of practices & compliance codes

States & Territories	Codes of Practices & Compliance Codes	
Australian Capital Territory (ACT)	Code of Practice: How to Manage and Control Asbestos in the Workplace.	Code of Practice: How to Safely Remove Asbestos.
New South Wales (NSW)	Code of Practice: How to Manage and Control Asbestos in the Workplace.	Code of Practice: How to Safely Remove Asbestos.
Northern Territory (NT)	Code of Practice: How to Manage and Control Asbestos in the Workplace.	Code of Practice: How to Safely Remove Asbestos.
Queensland (QLD)	Code of Practice: How to Manage and Control Asbestos in the Workplace.	Code of Practice: How to Safely Remove Asbestos.
South Australia (SA)	Code of Practice: How to manage and Control asbestos in the Workplace.	Code of Practice: How to Safely Remove Asbestos.
Tasmania (TAS)	Code of Practice: How to Manage and Control Asbestos in the Workplace.	Code of Practice: How to Safely Remove Asbestos.
Victoria (VIC)	Compliance Code: Managing Asbestos in Workplaces.	Compliance Code: Removing Asbestos in Workplaces.
Western Australia (WA)	Code of Practice for Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)].	Code of Practice for the Safe Removal of Asbestos [NOHSC:2002(2005)]

The Victorian Compliance Codes align with the intent of the SafeWork Australia Model Code of Practice.

**Appendix C - Asbestos Removal Control Plan
Checklist**

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The document was evaluated against the minimum criteria in the How to Safely Remove Asbestos, Model Code of Practice 2020 – Appendix B.

Components of the Asbestos Removal Control Plan

Information to be included in the asbestos removal control plan	Buildings and Structures		Appropriately Addressed
	Friable	Non-friable	
Notification			
Notification requirements have been met and required documentation will be on site (e.g. removal licence, control plan training records).	Yes	Yes	
Identification			
Details of asbestos to be removed (e.g. the locations, whether asbestos is friable/non-friable, its type, condition and quantity being removed)	Yes	Yes	
Preparation			
Consult with relevant parties (health and safety representative; workers; person who commissioned the removal work, licensed assessors)	Yes	Yes	
Assigned responsibilities for the removal	Yes	Yes	
Program of commencement and completion dates	Yes	Yes	
Emergency plans	Yes	Yes	
Asbestos removal boundaries, including the type and extent of isolation required and the location of any signs and barriers.	Yes	Yes	
Control of electrical and lighting installations	Yes	Yes	
Personal protective equipment (PPE) to be used, including respiratory protective equipment (RPE).	Yes	Yes	
Removal			
Details of air monitoring program, Control and clearance.	Yes	No	

Waste storage and disposal program	Yes	Yes	
Methods for removing the ACM (wet or dry methods)	Yes	Yes	
Asbestos removal equipment (spray equipment, asbestos vacuum cleaners, cutting tools, etc.)	Yes	Yes	
Details of required enclosures, including their size, shape, structure etc., smoke testing enclosures and the location of negative pressure exhaust units.	Yes	No	
Details on temporary buildings required by the asbestos removalist (e.g. decontamination units) including details on water, lighting and power requirements, negative pressure exhaust units and the locations of decontamination units.	Yes	May be required depending on the job.	
Other risk control measures to prevent the release of airborne asbestos fibres from the area where asbestos removal is undertaken.	Yes	Yes	
Decontamination			
Detailed procedures for workplace decontamination, the decontamination of tools and equipment, personal decontamination and the decontamination of non-disposable PPE and RPE.	Yes	Yes	
Waste disposal			
Method of disposing of asbestos wastes, including details on:	Yes	Yes	
• the disposal of protective clothing			
• the structure(s) used to enclose the removal area	Yes	No	
Clearance & Air Monitoring			
Name of the independent licensed asbestos assessor or competent person engaged to conduct air monitoring (if any).	Yes	No	
Consultation			
Consult with any people who may be affected by the removal work, including neighbours	Yes	Yes	

Other Comments:

SWMS Review

Mandatory		
Item	Checklist Criteria	Complies
01	Does the SWMS set out a logical step-by-step process of all work activities to be undertaken?	Y / N
02	Does the SWMS describe how each activity will be carried out?	Y / N
03	Does the SWMS consider the environment within which the activities are to be undertaken?	Y / N
04	Does the SWMS identify safety, health and environmental hazards that may arise through the work?	Y / N
05	Does the SWMS clearly document and control risk for each hazard identified?	Y / N
06	Does the SWMS describe all plant and equipment that will be used?	Y / N
07	Does the SWMS identify relevant Standards, Codes of Practice & Legislation to be complied with?	Y / N
08	Does the SWMS identify any pre-start and in-process certifications/authorisations/permits/meetings?	Y / N
09	Does the SWMS provide for and identify consultation with the workers that will undertake the task?	Y / N
10	Has the SWMS been approved by a responsible supervisor/manager?	Y / N
11	Does the SWMS provide emergency information?	Y / N
As Applicable		
Item	Checklist Criteria	Complies
12	Does the SWMS provide for emergency procedures including rescue requirements for "high risk activities"	Y / N
13	Does the SWMS effectively communicate any high-risk activities which may affect interfacing trades?	Y / N
14	Does the SWMS provide specific licensing and qualifications required by workers for specific tasks?	Y / N
15	Does the SWMS specify supervision, training and/or trialling required to enable the work to be done safely?	Y / N
16	Does the SWMS and risk assessment provide controls for public, people & plant in the vicinity of the task?	Y / N

Comments: