



Asbestos

Management Plan

August 2018

Version 2.1

DOCUMENT CONTROL

Version	Date	Responsible Area	Comments
Version 1.0	8 Jan 2015	Occupation Health & Safety	
Version 2.0	24 Jan 2017	Asset Management, Commercial Operations	Complete rewrite
Version 2.1	24 Aug 2018	Asset Management, Commercial Operations	Review. Incorporation of Department of Communities (Housing) terminology.

Contents

INTRODUCTION	3
1.1 Legislative Requirement.....	3
1.2 Government Policy	3
1.3 Housing Authority Asbestos Management Policy	4
Policy Statement.....	4
Policy Objective	4
Principles.....	4
2 PURPOSE OF ASBESTOS MANAGEMENT PLAN	5
2.1 Principles of Asbestos Management.....	5
3 IDENTIFICATION OF ACM IN THE WORKPLACE	7
3.1 Presuming that materials contain asbestos	7
3.2 Identification of materials that contain asbestos	7
3.3 Surveys/Inspections	7
3.4 Asbestos Register.....	7
4 RISK ASSESSMENT	9
4.1 Current Risk Assessment Risk Matrix	9
4.2 Future Risk Assessment Algorithm	9
5 CONTROL MEASURES.....	12
5.1 Labelling and Signage	15
5.2 Control of Access	15
5.3 Recording Work on ACM.....	15
5.4 Maintenance of Asbestos Register.....	15
5.5 Access to Asbestos Registers and Asbestos Management Plan	16
5.6 Safe Work Methods.....	16
Department of Community (Housing) Officers.....	16
Maintenance Contractors	16
5.7 Asbestos Removal	17
5.8 Clearance Inspections and Clearance Certificates	17
5.9 Air Monitoring	17

6	EMERGENCY AND INCIDENT PROCEDURES	18
6.1	Incident Situations	18
6.2	Emergency Situations	18
7	KEY ROLES AND RESPONSIBILITIES	19
8	CONSULTATION, INFORMATION SHARING AND TRAINING	20
8.1	Commercial Property (Office Accommodation)	20
8.2	Dwellings, land and essential services	20
8.3	Awareness Training	20
8.4	Review.....	20
8.5	Appendixes.....	21
	Appendix 1 – Definitions.....	22
	Appendix 2 – Examples of Asbestos Containing Materials.....	24
	Appendix 3 – Warning Signs and Labels.....	27
	Appendix 4 – Recommended Safe Working Practices	29
	Appendix 5 – Health Aspects of Exposure to Airborne Asbestos Fibres	40
	Appendix 6 – Awareness Training for Department of Community (Housing) Employees, Maintenance Contractors and Others	42
	Appendix 7 – References and Resources	43
	REFERENCES.....	43

INTRODUCTION

- This Asbestos Management Plan (AMP) is developed to assist the Department of Communities (Housing) Authority comply with Government policy and legislative requirements in the management of asbestos containing materials (ACM) in the Department of Community (Housing) workplaces. This AMP is to apply to all of the Department of Community (Housing) properties and is the “minimum” standard that is to be applied to the management of ACM.

1.1 Legislative Requirement

- Persons with control of premises have a legal responsibility and a duty of care to:
- develop, implement and maintain an Asbestos Management Plan (when ACM is present);
- investigate the premises for the presence of ACM;
- develop and maintain a register (Asbestos Register) of the identified or presumed ACM, including details on their locations, accessibility, condition, risk assessments and control measures;
- assess the condition of any ACM that are found and the associated asbestos risks;
- develop measures to remove the ACM or otherwise to minimise the risks and prevent exposure to asbestos; and
- ensure the control measures are implemented as soon as possible and are maintained as long as the ACM remain in the workplace.

1.2 Government Policy

The long-term aim is for all buildings occupied or controlled by government agencies to be free of ACM.

Whilst working towards this goal, agencies have an obligation to identify and manage ACM in public buildings to meet the Occupational Safety and Health requirements. The general principles of Government policy are:

- ACM in sound condition, left undisturbed, presents negligible risk to building occupants and the general community;
- removal of asbestos may not be immediately necessary but should take into consideration immediate health risks and be completed prior to demolition, partial demolition, renovation or refurbishment if these works are likely to disturb ACM;
- ACM should be regularly inspected and actions taken to minimise health risk; and
- all work conducted on ACM must be undertaken in such a manner as to minimise health risks.

-

1.3 Housing Authority Asbestos Management Policy

Policy Statement

- The Housing Authority is committed to ensuring that asbestos containing material in its assets will be managed in and reduced over time to protect the health and well-being of tenants, employees, maintenance contractors and visitors. Note that this policy will remain extant for Department of Communities (Housing) until such time the Department of Communities publishes its own asbestos management policy.

Policy Objective

The Housing Authority's objective is for all its physical assets to be safe and this will be achieved through a risk-based strategy designed to safeguard those persons who occupy, service and visit its assets.

Principles

The Asbestos Management Policy is underpinned by the following principles:

- The Policy is consistent with and supports the requirements of all relevant State legislation, and National Codes of Practice in relation to the management, control and removal of asbestos containing material, including but not limited to the *Code of Practice for the Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)] and the *Code of Practice for the Safe Removal of Asbestos 2nd Edition* [NOHSC: 2002 (2005)].
- The Housing Authority will take practical steps to protect the health and safety of tenants, employees, maintenance contractors and visitors from the risks associated with asbestos containing material within its assets.
- Buildings with asbestos containing material are not purchased or leased for occupancy unless the asbestos is being managed in accordance with the *Code of Practice for the Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)].
- A risk-based approach will be utilised for the management and control of asbestos containing material.

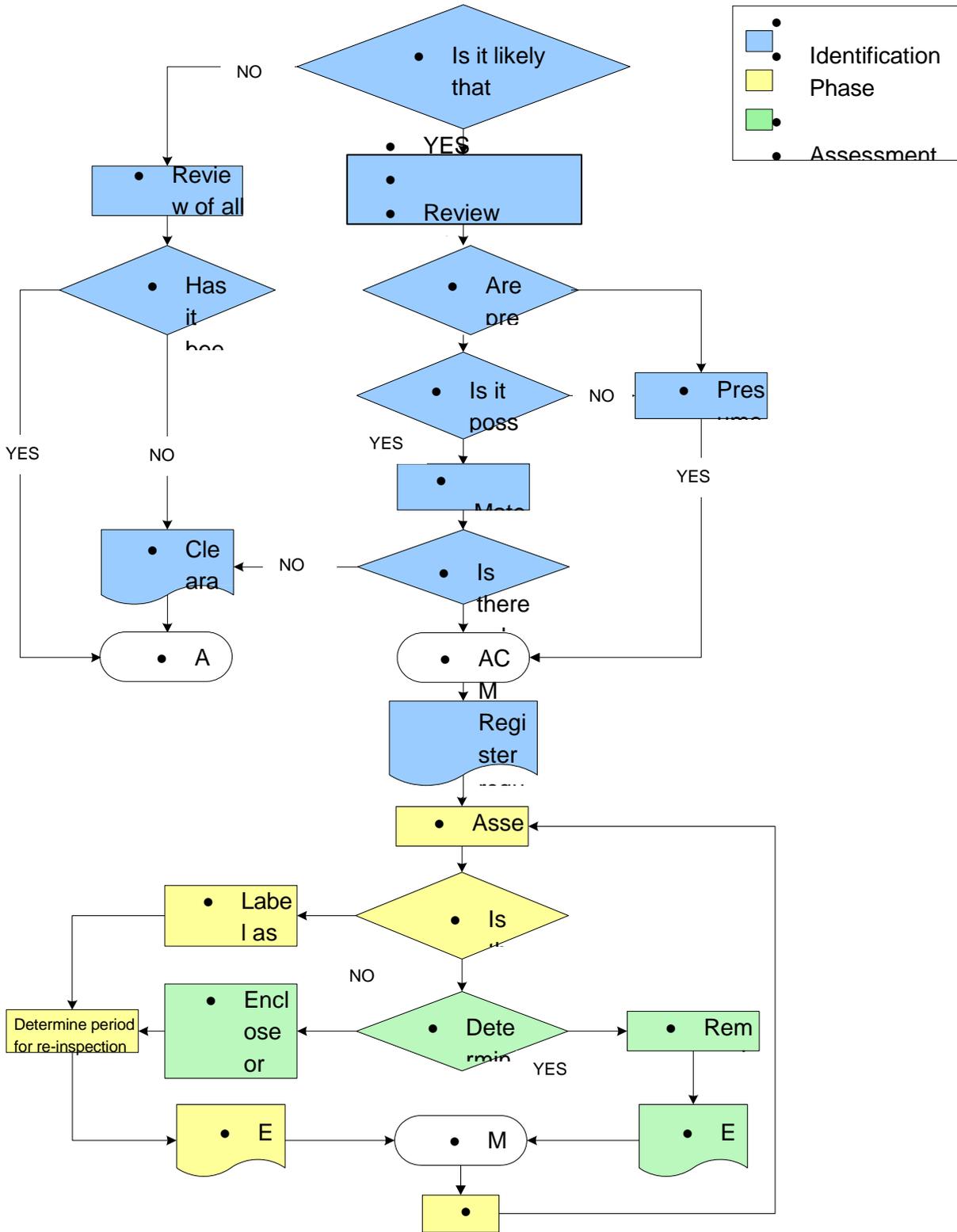
2 PURPOSE OF ASBESTOS MANAGEMENT PLAN

- The purpose of an AMP is to help Persons with Control of premises to comply with legislative requirements and prevent exposure to airborne asbestos fibres while ACM remain in the workplace. Usually an AMP is site specific, however given the Department of Community's (Housing) extensive property portfolio, it is acknowledged that it is impractical to create AMP for each of the Department of Community's (Housing) assets that contains ACM. As such, this AMP has been developed to encompass all of the Department of Community's (Housing) assets including:
 - dwellings (residential properties);
 - commercial properties (including office accommodation);
 - vacant land; and
 - essential services assets (bores, etc in remote communities).
- The AMP is the minimum management standard that is to be implemented for the Department of Community (Housing) Authority's assets.

2.1 Principles of Asbestos Management

- The general principles of asbestos management are broadly covered by four separate phases of activity. These are:
 1. Identification
 2. Evaluation
 3. Control
 4. On-going monitoring/re-assessment
- The relationship of these four phases is represented on Figure 1. As a note, in the General Principles of Asbestos Management [Figure 1], an ACM Register is not required when ACM is not present. The Department of Community (Housing) will, in the future, in its general asset management processes, document where properties have been inspected for ACM, but no ACM was reported as being identified.

Figure 1. General Principles of Asbestos Management



3 IDENTIFICATION OF ACM IN THE WORKPLACE

- Persons with Control of premises must ensure all ACM in their workplaces are identified, as far as practicable. More specifically, there is a need to:
 - identify the locations of all ACM and determine whether any inaccessible areas are likely to contain ACM; and
 - identify the types and condition and risk posed by ACM.
- Only persons competent in the identification of ACM are permitted to carry out these tasks.
- A list of materials potentially containing asbestos is presented in Appendix 2.

3.1 Presuming that materials contain asbestos

- In the majority of cases, Department of Community (Housing) Competent Persons (see Appendix 1 for definition) will rely on the “presumption method” rather than taking samples to determine whether a material contains asbestos. The competent person may simply presume the material contains asbestos. Once such a presumption has been made, the material must be treated as an ACM, with work practices and disposal criteria as required for the presence of asbestos, until the material is removed or testing has confirmed that it does not contain asbestos.
- The Asbestos Register will state the presumptions made about materials in the workplace by recording the ACM as ‘Suspected’ rather than ‘Tested’ in the BCA-ACM System.

3.2 Identification of materials that contain asbestos

Depending on the experience of the competent person undertaking the identification, some materials can positively be confirmed to contain asbestos to a degree of certainty. Appendix 7 contains useful references for the identification of common ACM.

3.3 Surveys/Inspections

Surveys/inspections of Department of Community (Housing) assets that contain ACM are conducted by competent persons every 12 months.

3.4 Asbestos Register

The asbestos register is a document that lists all identified (or assumed) ACM in a workplace, the risk posed by that ACM and the control measures that are to be implemented to mitigate exposure to asbestos. Asbestos registers are located as follows:

- Asbestos Register for dwellings and vacant land are contained within the Department of Community’s (Housing) Asbestos Register database (BCA-ACM System) located at <http://asbestosregister.housing.wa.gov.au/Client/UI/WebLogin.aspx>. Employees and Head Maintenance Contractors are given access to this asbestos register;
- Asbestos Registers for commercial buildings (ie office accommodation) are contained in their individual files in the Department of Community’s (Housing) record management system (HP Content Manager). The relevant Department of Community (Housing) contact will provide a copy of the asbestos register to external contractors, as required.

- Essential services (i.e. bores) and other miscellaneous assets that are have been identified with ACM will have their asbestos registers contained in the Department of Community's (Housing) HPE Content Manager file *Building Compliance Coordination – Reporting/Asbestos Registers – Essential services 2016/15125*. The relevant Department of Community (Housing) contact person will provide a copy of the asbestos register to external contractors, as required.

The surveys/inspections include a risk assessment and recommendation for future control measures. Results of surveys are recorded in the Department of Community's (Housing) Asbestos Registers, maintained by Department of Community (Housing) officers.

4 RISK ASSESSMENT

- When ACM are identified in a workplace, the Person with Control (see Appendix 1 for definition) must ensure the associated risks are assessed by a competent person. The Department of Community (Housing) will be changing the risk assessment methodology and there will be a transition period between the current and the new risk assessment methodologies, which are detailed below.

4.1 Current Risk Assessment Risk Matrix

- The Department of Community (Housing) will assesses the risk using a risk matrix of [Condition of ACM] x [Probability of Disturbance] = Risk Rating. The Risk Rating is 1 through to 9 (High Risk through to Very Low Risk). This risk assessment is generated by the BCA-ACM System (the asbestos register database).

ASBESTOS CONTAINING MATERIAL RISK ASSESSMENT MATRIX				
CONDITION OF MATERIAL	POOR	Risk Ranking 6 Unsealed or coating damaged. Severely weathered. <i>Low probability of disturbance.</i>	Risk Ranking 3 Unsealed or coating damaged. Severely weathered. <i>Medium probability of disturbance.</i>	Risk Ranking 1 Unsealed or coating damaged. Severely weathered. <i>High probability of disturbance.</i>
	FAIR	Risk Ranking 8 Unsealed or coating deteriorated. Moderately weathered. <i>Low probability of disturbance.</i>	Risk Ranking 5 Unsealed or coating deteriorated. Moderately weathered. <i>Medium probability of disturbance.</i>	Risk Ranking 2 Unsealed or coating deteriorated. Moderately weathered. <i>High probability of disturbance.</i>
	GOOD	Risk Ranking 9 Sealed and coating in good condition. Unweathered. Surface sound and well bound. <i>Low probability of disturbance.</i>	Risk Ranking 7 Sealed and coating in good condition. Unweathered. Surface sound and well bound. <i>Medium probability of disturbance.</i>	Risk Ranking 4 Sealed and coating in good condition. Unweathered. Surface sound and well bound. <i>High probability of disturbance.</i>
		LOW	MEDIUM	HIGH
		PROBABILITY OF DISTURBANCE		

4.2 Future Risk Assessment Algorithm

- The Department of Community's (Housing) will implement a new ACM Risk Assessment Algorithm which may be based on the British Health and Safety Executive (2012) Asbestos Survey Guide HSG264 2nd Edition methodology in the future.
- The HSE risk assessment algorithm requires the assessment of six variables relating to the risk of asbestos fibre release from an ACM as well as a two variables relating to the potential for disturbance of the material.
- The score obtained from each of the six variables is added together giving the ACM risk score, which is then used to categorise the risk, as defined below:
 - Very Low Risk
 - Low Risk
 - Medium Risk
 - High Risk.

Department of Community (Housing) ACM Risk Assessment Algorithm (being considered)

	Variable	Score	Definition
Material Risk of Fibre Release	1). Asbestos Fibre Type	0	NAD - of no asbestos present <u>Asbestos risk assessment discontinues</u>
		3	Confirmed Asbestos or Presumed Asbestos
	2). Product type (or debris from product)	1	Asbestos cement products, vinyl floor tiles, electrical backing boards, reinforced plastics, mastics & resins, textured paints (Composite materials)
		2	Asbestos millboard, Low density plaster boards, textiles, asbestos rope, textiles, paper felts
		3	Friable Thermal insulations, lagging, spray coatings, mattresses & packing, residues/debris from friable ACM
	3). Surface Treatment	0	Vinyl floor tiles, electrical backing boards, reinforced plastics, mastics & resins (Composite material)
		1	Enclosed sprays and lagging, asbestos insulating board (with exposed face painted or encapsulated), all asbestos cement products (regardless of painting/sealing) etc.
		2	Unsealed/unpainted low density board, or encapsulated lagging/spray, asbestos cement debris
		3	Unsealed friable insulation, lagging, sprays (e.g. Mr Fluffy)
	4) Extent of Damage/deterioration	0	Good condition – No visible damage
		1	Low damage: Few scratches/marks, broken edges, occasion hole
		2	Medium damage: Significant breakage / areas of damage revealing fibres.
		3	High damage, or delamination of materials, sprays and thermal insulation. Visible asbestos debris – or Friable
Potential Exposure	5) Location of ACM	0	Outdoors
		2	Indoors
		8	Within HVAC, air-supply ducting or plenum
	6) Accessibility/Potential disturbance	0	Very Low – Unlikely to be disturbed/accessed a few times a year - (e.g. in roof space, wall void, electrical backing board, conduits or pipework, behind tiles)
		1	Low - Occasionally likely to be disturbed/accessed monthly (e.g. eaves or external wall panels, ACM fencing, gaskets, electrical fuses)
		2	Medium – Moderately likely to be disturbed/accessed multiple times a week (e.g. cupboards, store rooms, storage areas, carports, garages)
		3	High - Routinely disturbed/accessed – multiple times a day (e.g. within HVAC, air supply ducting or plenum, hall ways, bathroom, kitchen walls).
			Risk Category
ACM – Risk Score and Risk Category		4-8	Very Low Risk
		9-12	Low Risk
		13-17	Medium Risk
		18-23	High Risk

Risk Score = (Asbestos Fibre Type) + (Surface Treatment) + (Product type) + (Extent of Damage/deterioration) + (Location of ACM and Likelihood of Disturbance).

5 CONTROL MEASURES

- As per the *Code of Practice for the Management and Control of Asbestos in Workplaces* [NOHSC:2018 (2005)], control measures should reflect the following hierarchy of controls; and a combination of the following may be required in order to adequately manage ACM:
 1. elimination/removal (most preferred);
 2. isolation/enclosure/sealing;
 3. engineering controls;
 4. safe work practices (administrative controls); and
 5. Personal Protective Equipment (PPE) (least preferred)

In accordance with the *Code of Practice for the Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)], the following control measures may be adopted:

- Removal
 - Removal of asbestos must be performed under certain controlled conditions, depending on the type of asbestos product to be removed. Removal is considered preferable to the other abatement options such as enclosure or encapsulation, as it eliminates the hazard from the work place. The removal process, however, does pose an increased risk to personnel engaged in the removal, and may result in increased airborne fibre levels in adjacent occupied areas if the removal program is not strictly controlled. Asbestos removal is generally an expensive exercise, and can cause major disruptions to building occupants.
 - The removal of asbestos is considered appropriate when the asbestos product is deteriorated, has reached an unserviceable condition, or is at risk of being disturbed, and the other control options are not feasible. Where demolition or refurbishment works are to occur, and this work is likely to impact on asbestos materials, the asbestos must be removed under controlled conditions prior to the commencement of any site works.
- Enclosure
 - Enclosure involves installing a barrier between the asbestos material and adjacent areas.
 - This is effective in inhibiting further mechanical damage to the asbestos, and friable products such as calcium silicate pipe lagging or sprayed limpet asbestos may be targeted for enclosure where removal is not an option. The type of barrier installed may include plywood or sheet metal products, constructed as boxing around the asbestos.
- Encapsulation or Sealing
 - Encapsulation refers to the coating of the outer surface of the asbestos material by the application of some form of sealant compound that usually penetrates to the substrate and hardens the material. Sealing is the process of covering the surface of the material with a protective coating impermeable to asbestos. Encapsulation or sealing helps protect the asbestos from mechanical damage, and is designed to reduce the risk of exposure by inhibiting the release of asbestos fibres into the airborne environment, and increase the length of serviceability of the product.

- The use of encapsulation or sealing may be of limited application. It is not considered to be an acceptable alternative to repairing or removing severely damaged or friable asbestos materials.
- Leave in Situ (defer action)
 - The identification of asbestos in a building does not automatically necessitate its immediate removal. Asbestos in a stable condition and not prone to mechanical damage or disturbance can generally remain in situ. The asbestos will need to be inspected on a regular basis (every 12 months where a risk assessment indicates the need for reassessment) to ensure its integrity is maintained. ACM should be labelled with an appropriate warning where required (and in line with this AMP), and must be removed under controlled conditions prior to demolition or refurbishment works that may disturb the asbestos.
 - Where the asbestos is friable and not in a stable condition, and there is a risk to health from exposure, it should be removed as soon as practicable
 - Table 1 provides a summary of the relative advantages and disadvantages of each control method considered by the Department of Community (Housing), as well as situations in which each may be considered appropriate.

Table 1. Assessment of Appropriate Control Measures

Appropriate	Not Appropriate	Advantage	Disadvantage
Remove			
<ul style="list-style-type: none"> • Surface friable or asbestos poorly bonded to substrate. • Asbestos is severely damaged or liable to further damage or deterioration. • Located in A/C duct. • Airborne asbestos exceeds recommended exposure standard. • Other control techniques inappropriate 	<ul style="list-style-type: none"> • Located on complex and inaccessible surfaces. • Removal extremely difficult and other techniques offer satisfactory alternative. 	<ul style="list-style-type: none"> • Hazard removed. • No further action required. 	<ul style="list-style-type: none"> • Increases immediate risk of exposure especially to removal workers. • Creates major disturbance in building. • Often highest cost, most complex and time consuming method. • Removal may increase fire risk within building; • substitute required. • Possible contamination of whole building if removal done poorly
<ul style="list-style-type: none"> • Enclose 	•	•	•

<ul style="list-style-type: none"> Removal extremely difficult. Fibres can be completely contained within enclosure. Most of surface already inaccessible. Disturbance to, or entry into, enclosure area not likely. 	<ul style="list-style-type: none"> Enclosure itself liable to damage. Water damage likely. Asbestos material cannot be fully enclosed. 	<ul style="list-style-type: none"> May minimise disturbance to occupants. Provides an adequate method of control for some situations. 	<ul style="list-style-type: none"> Hazard remains. Continuing maintenance of enclosure. Asbestos management program required. Need to remove enclosure before eventual removal of asbestos. Precautions necessary for entry into enclosure
<ul style="list-style-type: none"> Encapsulate or Seal 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
<ul style="list-style-type: none"> Removal difficult or not feasible. Firm bond to substrate. Damage unlikely. Short life of structure. Readily visible for regular assessment 	<ul style="list-style-type: none"> Asbestos deteriorating. Application of sealant may cause damage to material. Water damage likely. Large areas of damaged asbestos. 	<ul style="list-style-type: none"> Quick and economical for repairs to damaged areas. May be an adequate technique to control release of asbestos dust. 	<ul style="list-style-type: none"> Hazard remains. Cost for large areas may be near removal cost. Asbestos management system required. Eventual removal may be more difficult and costly.
<ul style="list-style-type: none"> Defer (manage insitu) 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
<ul style="list-style-type: none"> Negligible risk of exposure; and Asbestos inaccessible and fully contained; or Asbestos stable and not liable to damage. 	<ul style="list-style-type: none"> Possibility of deterioration or damage. Airborne asbestos dust exceeds recommended exposure standard. 	<ul style="list-style-type: none"> No initial cost. Cost of removal deferred. 	<ul style="list-style-type: none"> Hazard remains. Need for continuing assessment. Asbestos management program required.

- Source: National Occupational Health and Safety Commission (Worksafe Australia) Asbestos: Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)].

In consideration of the above, the recommended control measures that have been considered and approved by Department of Community (Housing) management are as follows:

High Risk – (BCA-ACM System Risk Rating 1) - Immediately restrict access, shut down air-conditioning system (if applicable), notify building occupants and engage licenced asbestos contractor to remove within one month.

Medium Risk – (BCA-ACM System Risk Rating 2-4) Seal or encapsulate materials ASAP. Consider removal in the short to medium term. Label as containing asbestos. Re-inspect every 12 months or sooner should the materials be removed or change condition.

Low Risk – (BCA-ACM System Risk Rating 5-7) - Remove materials during planned refurbishment / renovations works. Label as containing asbestos. Re-inspect every 12 months or sooner should the materials be removed or change condition.

Very Low Risk – (BCA-ACM System Risk Rating 8-9) No remedial action required. Label as containing asbestos and maintain in good condition. Re-inspect every 12 months (36 months may be justifiable) or sooner should the materials be removed or change condition.

The Department of Community (Housing) will also prioritise management of friable (see Appendix 1 for definition) ACM - regardless of the risk rating.

5.1 Labelling and Signage

All warning signs and labels are to comply with Australian Standard 1319 Safety Signs for the Occupational Environment. Examples of warning signs and labels are shown in Appendix 3. The Department of Community (Housing) will label and provide signage as follows:

1. Commercial Properties - All ACM is labelled and signs are placed at all entry.
2. Dwellings - Labelling in dwellings will be located in the meter box.
3. Land - It is considered impractical to label or provide signage for fences/debris.
4. Essential Services assets. ACM stickers will be placed on equipment when practicable.

5.2 Control of Access

Control of access to Department of Community (Housing) Assets will be as follows:

- **Office Accommodation.** Access controlled by security card, no public access
- **Non-office accommodation.** No access restriction required as full signage and labelling is present and workers will be directed to review the Asbestos Register for the site, prior to accessing.

5.3 Recording Work on ACM

Work done on ACM that materially changes a register entry, is to be recorded in the Asbestos Register by an authorised Department of Community (Housing) officer and will include details of:

- the company conducting the work
- the date of the work
- the scope of the work done
- any clearance certificates

5.4 Maintenance of Asbestos Register

Asbestos Registers will be maintained by Department of Community (Housing) officers after surveys/inspections and any work that changes the ACM on the asset.

5.5 Access to Asbestos Registers and Asbestos Management Plan

Access to the Asbestos Registers is as follows:

- Department of Community (Housing) employees will access Asbestos Registers prior to conducting inspections at assets.
- Head Maintenance Contractors will be provided with a username/password to access the Asbestos Register at www.housing.wa.gov.au prior to carrying out works.
- Asbestos Registers will be made available to non-Head Maintenance contractors when carrying out works on assets that may contain asbestos.

The Asbestos Management Plan will be available at: www.housing.wa.gov.au.

5.6 Safe Work Methods

Department of Community (Housing) Officers

- Department of Community (Housing) Competent Persons are trained in the safe methods for inspecting ACM. If Department of Community (Housing) officers are required to carry out minor maintenance of damaged ACM, they are required to carry this out in accordance with the Asbestos and Hazardous Materials Safety Kits Business Practice Guide located in Service Delivery Procedures.

Maintenance Contractors

- Maintenance contractors who will be responsible for the remediation of ACM will be required to carry out their work in accordance with State and National legislative requirements.
- Examples of Safe methods of work can be found in Appendix 4 and within Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)].
- It is important that safe work practices are in place when carrying out asbestos work or asbestos-related work. Wherever possible, dry asbestos should not be worked on. Techniques that prevent or minimise the generation of airborne asbestos fibres include:
 - the wetting of asbestos using surfactants or wetting agents, such as detergent water
 - the use of thickened substances, pastes and gels, including hair gel and shaving cream, to cover the surfaces of asbestos being worked on (these substances should be compatible with the conditions of use, including the temperature, and should not pose a risk to health)
 - the use of shadow vacuuming
 - performing the task in a controlled environment (for instance, a ventilated enclosure).
- When selecting the best technique, the work should first be assessed for any electrical hazards that might result from the use of water or other liquids. If an electrical hazard exists, primary consideration should be given to removing the asbestos, rather than relying on dry work methods.
- If asbestos-related work or maintenance or service tasks are assessed by a competent person as involving similar levels of risk, they too may be performed only after the risks for that task have been assessed and appropriate control measures implemented.

- The use of high-speed abrasive power and pneumatic tools, including angle grinders, sanders and saws, and high-speed drills, is prohibited, except where used with dust suppression/extraction controls. These controls may include local exhaust ventilation (LEV) dust control hoods that attach to the tool and isolate the area being worked on (drilled, sanded etc.) from the environment, ensuring that the dust is captured.
- Appendix 4 outlines examples of safe work practices of service and maintenance tasks that are likely to disturb asbestos and control measures that have been implemented to eliminate or minimise exposure to airborne asbestos.

5.7 Asbestos Removal

- Asbestos removal work must be carried out by a contractor holding an asbestos licence relevant to the type and quantity of ACM to be removed.

Where ACM removal is undertaken:

- friable ACM can only be removed by persons with an Unrestricted Licence
- non friable (bonded) ACM > 10m² can be removed by persons with a Restricted License or above.
- ACM removal is to be carried out in accordance with the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)] and best practice.
- Prior to any asbestos removal, remedial or maintenance activities, the contractor must view the asbestos register and risk assessment for the property and provide a work plan showing safe methods of work for any removal or remedial work involving the potential disturbance of asbestos.
- All activities must be carried out in a manner that limits asbestos fibre release in the workplace to as low as reasonably practicable.

5.8 Clearance Inspections and Clearance Certificates

- **Non-Friable Asbestos.** When non-friable asbestos is removed, a competent person (independent of the removal contractor) must conduct a thorough clearance inspection and provide a clearance certification to allow the work area to be re-occupied.
- **Friable Asbestos.** Friable asbestos removal will require an independent certification by a third party consultant (occupational hygienist/asbestos consultant).

5.9 Air Monitoring

Department of Community (Housing) will organise/require air monitoring in the following situations:

- when recommended by third party consultants
- in situations required by the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)] e.g. where friable ACM is removed.

6 EMERGENCY AND INCIDENT PROCEDURES

6.1 Incident Situations

- Where an inspection identifies a serious degradation of ACM or a new ACM hazard has arisen, the following procedures are to be implemented:
 - consult the Asbestos Register
 - isolate the area and impose access restrictions if necessary;
 - advise and inform employees, tenants, affected neighbours as required;
 - determine “clean up” or other remedial action & monitoring regime;
 - institute access restrictions where required;
 - arrange for remedial action;
 - conduct clearance procedure if required;
 - document the situation and revise – if necessary – the Asbestos Register and AMP.
 - advise relevant employees - restrict access in accordance with the AMP; and
 - implement preferred control action enclosure/sealing, monitoring, removal or manage in-situ;

6.2 Emergency Situations

Situations where health and safety are considered to be at immediate risk, e.g. major asbestos disturbance and fibre release, the following protocol should be put in place:

- evacuate all employees and tenants;
- responsible person to take control and determine extent of incident;
- advise other parties as necessary (line management, affected neighbours, enforcing authority)
- seal off or otherwise isolate the area;
- determine “clean up” or other remedial action & monitoring regime;
- institute access restriction ;
- arrange for remedial action;
- conduct clearance procedure;
- clear permits for re-occupancy;
- document the situation and revise the Asbestos Register and Asbestos Management Plan as required;
- if the health and safety of an employee has been placed at risk, complete an Incident and Hazard Report Form and email to the employee’s Line Manager/Supervisor; and
- if the health and safety of a non-employee of Department of Community (Housing) has been placed at risk, they can lodge a report by contacting Housing Direct on 1300 137 677.

7 KEY ROLES AND RESPONSIBILITIES

A list of key roles and responsibilities pertaining to this Asbestos Management Plan is shown in Table 3:

Table 2. Key Roles and Responsibilities

Role	Responsibility
Department of Community (Housing) Corporate Executive	Approve the Asbestos Management Plan
Department of Community (Housing) employees and maintenance contractors	Comply with the Asbestos Management Plan and refrain from any act which could place them or any other person at risk of exposure to known asbestos fibres.
Manager, Asset Management, APM	Review and update the content within the Asbestos Management Plan annually and following any changes in the workplace or work practices.
BCA-ACM System Administrator	Provide access to the BCA-ACM System for employees. Provide access to the Asbestos Register for Head Maintenance contractors.
Manager Occupational Safety Health	Ensure any reported incidents involving actual or potential exposure to asbestos fibres are investigated and resolved. Review content of all asbestos related training provided to employees annually. Review content of Asbestos Fact Sheets provided to tenants/lessees. Review the Asbestos and Hazardous Materials Safety Kits and the Business Practice Guide annually.
Principal Insurance Officer, Legal & Legislative Services	Ensure any reported incidents to actual or potential exposure to asbestos fibres are investigated and resolved.
Workforce Development	Provide asbestos awareness induction training for all employees.
Housing Direct	Ensure all reported incidents involving the actual or potential exposure of persons to asbestos fibres are immediately actioned.
Persons with Control [see Note 1]	Ensure that the Asbestos Register is reviewed, updated and maintained for all properties with ACM present. Maintain a schedule of work and coordinating any actions required. Ensure inspections of properties containing asbestos are carried out by competent persons, when required, and the appropriate signage and labelling is present. Provide Asbestos Management Plan and Asbestos Registers for maintenance contractors not engaged under the Head Maintenance Contract. Ensure that employees, maintenance contractors and tenants have been suitably informed and consulted with regarding asbestos materials, risks, safety precautions and adopted control measures. Ensure procedures are in place for the control of employees and maintenance contractors who may come into contact with ACM during the course of their work. Ensure all incidents involving the actual or potential exposure of persons to asbestos fibres are immediately reported.
Manager Housing Maintenance Contract Performance	Liaise with BCA-ACM System Administrator to organise user/password access for Head Maintenance Contractors to the Asbestos Register on the Housing Authority website. Provide Head Maintenance contractors with Asbestos Management Plan.
Maintenance Contractors	Provide asbestos awareness training to their own workers and employees.

Note 1: Persons with Control means, in relation to premises, a person who has control of premises used as a workplace. The person with control may be:

- a. the owner of the premises;
- b. a person who has, under any contract or lease, an obligation to maintain or repair the premises;
- c. a person who is occupying the premises (excluding residential tenants);
- d. a person who is able to make decisions about work undertaken at the premises; or
- e. an employer at the premises.

8 CONSULTATION, INFORMATION SHARING AND TRAINING

8.1 Commercial Property (Office Accommodation)

Advice regarding ACM is to be included in induction training procedures and follow up briefings are to be conducted after each review of the ACM register and after any material change in the ACM register. Updates, where a change to the AMP or extensive work to buildings is planned, are to be delivered to Department of Community (Housing) employees by briefings/meetings.

Induction briefings for maintenance contractors who may work within commercial buildings are to be conducted prior to works being carried out where ACM may be disturbed.

8.2 Dwellings, land and essential services

Department of Community (Housing) employees will access the Asbestos Register prior to visiting properties to be informed of any ACM. Maintenance Contractors are to be alerted to the possible presence of ACM on works orders issued by the Department of Community (Housing) for dwellings/land/essential services; and be advised where the Asbestos Register can be accessed. Whereby a non-Head Maintenance contractor is awarded a contract for works, then the Asbestos Register is to be provided (normally provided in the tendering process) together with the Asbestos Management Plan.

8.3 Awareness Training

Refer to Appendix 6 for information about awareness training for employees, maintenance contractors and others.

8.4 Review

The Asbestos Management Plan will be reviewed annually to ensure effectiveness of management processes in:

- preventing exposure to airborne asbestos fibres;
- controlling maintenance workers and contractors;
- highlighting the need for action to maintain or remove ACM;
- raising awareness among all employees; and
- maintaining the accuracy of the register of ACM.

Appendix 7 details resources and references for further information.

8.5 Appendixes

The following Appendixes are attached:

- Appendix 1 – Definitions
- Appendix 2 – Examples of Asbestos Containing Materials
- Appendix 3 – Warning Signs and Labels
- Appendix 4 – Safe Working Practices
- Appendix 5 – Health Aspects of Exposure to Airborne Asbestos Fibres
- Appendix 6 – Awareness Training for Employees, Maintenance Contractors and Others
- Appendix 7 – Resources and References

Appendix 1 – Definitions

ACM	means any material, object, product or debris that contains asbestos.
Asbestos	the fibrous form of mineral silicates belonging to the serpentine and amphibole groups of rock-forming material, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos), tremolite, or any mixture containing one or more of the mineral silicates belonging to the serpentine and amphibole groups.
Asbestos Cement (AC)	means products consisting of sand aggregate and cement reinforced with asbestos fibres (e.g. asbestos cement pipes and flat or corrugated asbestos cement sheets).
Asbestos Removalist	<p>means a Licensed person who performs asbestos removal work. There are two License categories:</p> <p>Unrestricted: An Unrestricted Asbestos Removal Licence allows the licence holder, or people employed by the licence holder, to remove all forms of asbestos (friable and non-friable). Friable asbestos means any material that contains asbestos and is in the form of a powder, or can be easily crumbled, pulverised or reduced to a powder by hand pressure when dry. Examples of friable asbestos include, but are not limited to, asbestos lagging, sprayed insulation, millboard, felt and woven asbestos matting; and</p> <p>Restricted: A Restricted Asbestos Removal Licence allows the licence holder, or people employed by the licence holder, to remove amounts exceeding 10 square metres of bonded (non-friable) asbestos. Bonded asbestos contains material such as cement or rubber, which stabilises the product and gives it a non-friable structure. Common examples are asbestos cement sheets and pitch-based electrical switchboards.</p> <p>Under ten (10) square metres of bonded (non-friable) asbestos can be removed without a licence.</p>
Asbestos Waste	means all removed ACM and disposable items used during the asbestos work, such as plastic sheeting used to cover surfaces in the asbestos work area, disposable coveralls, disposable respirators, rags used for cleaning.
Asbestos Work Area	means the immediate area in which work on ACM is taking place. The boundaries of the asbestos work area must be determined by a risk assessment.
ASCC	Australian Safety and Compensation Council
Clearance Inspection	means an inspection, carried out by a competent person, to verify that an asbestos work area 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 monitoring and/or settled dust sampling.
Competent Person	means a person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill, for the safe performance of the specific work.
Friable (asbestos)	means ACM which, 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.
In situ	means fixed or installed in its original position, not having been moved.
NOHSC	National Occupational Health and Safety Commission
Person with Control	means, in relation to premises, a person who has control of premises used as a workplace. The person with control may be: (a) the owner of the premises; (b) a person who has, under any contract or lease, an obligation to maintain or repair the premises; (c) a person who is occupying the premises; (d) a person who is able to make decisions about work undertaken at the premises; or (e) an employer at the premises.
Personal Protective Equipment (PPE)	means equipment and clothing that is used or worn by an individual person to protect themselves against, or minimise their exposure to, workplace risks. It includes items such as facemasks and respirators, coveralls, goggles, helmets, gloves and footwear
Risk	means the likelihood of a hazard causing harm to a person. Note: In this code of practice, Risk relates to illness or disease arising from exposure to Airborne Asbestos Fibres.
Safe Work Method Statement (SWMS)	A SWMS is a document that sets out the high risk construction work activities to be carried out at a workplace, the hazards arising from these activities and the measures to be put in place to control the risks. A SWMS is classed as an administrative control and is used to support higher order controls to eliminate or minimise risks to health and safety, for example engineering controls.
Structure	means any construction, whether temporary or permanent. Note: A structure includes a bridge, erection, edifice, wall, chimney, fence, earth works, reclamation, ship, floating structure or tunnel.
Worker	means a person who does work, whether or not for reward or recognition. Note: 'Workers' include persons working under contracts of employment, apprenticeships, traineeships and other contracts of service, but they also include other persons subject to direction by Persons with Control, such as volunteers and work experience students.
Workplace	Any place where a Department of Community (Housing) officer or contractor works, including domestic rental properties.

-
- Source: Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)]

Appendix 2 – Examples of Asbestos Containing Materials

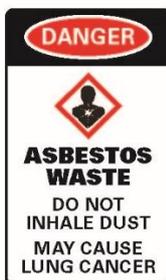
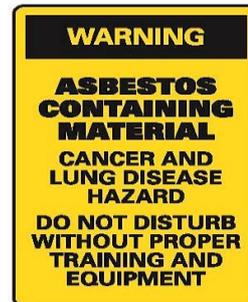
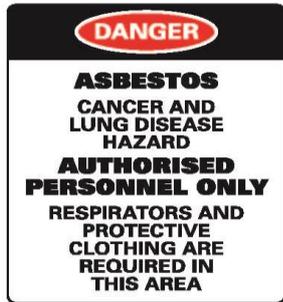
- (This is not an exhaustive list)
- **A**
Air-conditioning ducts: exterior or interior acoustic and thermal insulation
- Asbestos ceiling tiles
- Asbestos cement external roofs and walls
- Asbestos cement internal flues and downpipes
- Asbestos cement render, plaster, mortar and coursework
- Asbestos cement sheet
- Asbestos cement sheet behind ceramic tiles
- Asbestos cement sheet internal over exhaust canopies such as ovens, fume cupboards, etc.
- Asbestos cement sheet internal walls and ceilings
- Asbestos cement sheet underlays for vinyl
- Asbestos roof tiles
-
- **B**
Bitumen-based water proofing such as malthoid, typically on roofs and floors but also in brickwork
- **C**
Cement render
- Chrysotile wicks in kerosene heaters
- Compressed asbestos cement panels for flooring, typically verandas, bathrooms and steps for demountable buildings
-
- **D**
Door seals on ovens
- **E**
Electric hot water services - normally not asbestos but some millboard could be present
- Electric light fittings, high wattage, insulation around fitting (and bituminised)
- Electrical switchboards – see Pitch-based
-
- **F**
Fire blankets

- Fire door insulation
- Fire-rated wall rendering containing asbestos with mortar
- Floor vinyl sheets and tiles
- Fuse blankets and ceramic fuses in switchboards
-
- **G**
Galbestos™ roofing materials (decorative coating on metal roof for sound proofing)
- Gloves – asbestos
-
- **I**
Insulation in electric reheat units for air-conditioner systems
- **L**
Lifts shafts - asbestos cement panels lining the shaft at the opening of each floor, and asbestos packing around penetrations
- **M**
Millboard lining of switchboxes
- **P**
Penetrations through concrete slabs in high rise buildings
- Pipe insulation including moulded sections, water-mix type, rope braid and sheet
- Pitch-based (e.g. zelemite, ausbestos, lebah) electrical switchboard
-
- **S**
Sealant or mastik on windows
Spackle or plasterboard wall jointing compounds
- Sprayed insulation - acoustic wall and ceiling
- Sprayed insulation - beams and ceiling slabs
- Sprayed insulation - fire retardant sprayed on nut internally, for bolts holding external building wall panels
- Stoves - old domestic type; wall insulation
-
- **T**
Tilux sheeting in place of ceramic tiles in bathrooms
- **V**
Valve, pump, etc. insulation

- **W**
Woven asbestos cable sheath

Appendix 3 – Warning Signs and Labels

- Examples of warning signs and labels are shown in Figure 1
- Figure 1 – Examples of warning signs and labels.



- Note: The examples of warning signs and labels in Figure 1 provide only an indication of the words that may be used to alert persons to the presence of ACM and asbestos hazards. The wording is not mandatory. Other warning signs and labels may be used, provided they meet the requirements of AS 1319.

- Examples of warning signs and labels currently used in Department of Community (Housing) residential properties is shown in Figure 2.
- Figure 2 – Example of Department of Community (Housing) warning label.



Appendix 4 – Recommended Safe Working Practices

- Below are some recommended safe working methods that demonstrate how control measures can be used when asbestos is present at the workplace:

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 – Replace 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.

- Source: Code of Practice How to manage and control asbestos in the workplace Safe Work Australia (February 2016).

SAFE WORK PRACTICE 1 – DRILLING OF ACM	
The drilling of asbestos cement sheeting can release asbestos fibres into the atmosphere, so precautions must be taken to protect the drill operator and other persons from exposure to these fibres. A hand drill is preferred to a battery-powered drill, because the quantity of fibres is drastically reduced if a hand drill is used.	
Equipment that may be required prior to starting work (in addition to what is needed for the task)	<ul style="list-style-type: none"> • A non-powered hand drill or a low-speed battery-powered drill or drilling equipment. Battery-powered drills should be fitted with a local exhaust ventilation (LEV) dust control hood wherever possible. If an LEV dust control hood cannot be attached and other dust control methods such as pastes and gels are unsuitable then shadow vacuuming techniques should be used • Disposable cleaning rags • A bucket of water, or more as appropriate, and/or a misting spray bottle • Duct tape • Sealant • Spare PPE • A thickened substance such as wallpaper paste, shaving cream or hair gel • 200 µm plastic sheeting • A suitable asbestos waste container (e.g. 200 µm plastic bags or a drum, bin or skip lined with 200 µm plastic sheeting) • Warning signs and/or barrier tape • An asbestos vacuum cleaner • A sturdy paper, foam or thin metal cup, or similar (for work on overhead surfaces only).
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
Preparing the asbestos work area	<ul style="list-style-type: none"> • If the work is to be carried out at a height, appropriate precautions must be taken to prevent falls. • Ensure appropriately marked asbestos waste disposal bags are available. • Carry out the work with as few people present as possible. • Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. close door and/or use warning signs and/or barrier

SAFE WORK PRACTICE 1 – DRILLING OF ACM	
<p>The drilling of asbestos cement sheeting can release asbestos fibres into the atmosphere, so precautions must be taken to protect the drill operator and other persons from exposure to these fibres. A hand drill is preferred to a battery-powered drill, because the quantity of fibres is drastically reduced if a hand drill is used.</p>	
	<p>tape at all entry points). The distance for segregation should be determined by a risk assessment.</p> <ul style="list-style-type: none"> • If drilling a roof from outside, segregate the area below. • If access is available to the rear of the asbestos cement, segregate this area as well as above. • If possible, use plastic sheeting, secured with duct tape, to cover any surface within the asbestos work area that could become contaminated. • Ensure there is adequate lighting. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket, as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
Drilling vertical surfaces	<ul style="list-style-type: none"> • Tape both the point to be drilled and the exit point, if accessible, with a strong adhesive tape such as duct tape to prevent the edges crumbling. • Cover the drill entry and exit points (if accessible) on the asbestos with a generous amount of thickened substance. • Drill through the paste. • Use damp rags to clean off the paste and debris from the wall and drill bit. • Dispose of the rags as asbestos waste as they will contain asbestos dust and fibres. • Seal the cut edges with sealant. • If a cable is to be passed through, insert a sleeve to protect the inner edge of the hole.
Drilling overhead horizontal surfaces	<ul style="list-style-type: none"> • Mark the point to be drilled. • Drill a hole through the bottom of the cup. • Fill or line the inside of the cup with shaving cream, gel or a similar thickened substance. • Put the drill bit through the hole in the cup so that the cup encloses the drill bit, and make sure the drill bit extends beyond the lip of the cup. • Align the drill bit with the marked point. • Ensure the cup is firmly held against the surface to be drilled. • Drill through the surface. • Remove the drill bit from the cup, ensuring that the cup remains firmly against the surface. • Remove the cup from the surface. • Use damp rags to clean off the paste and debris from the drill bit. • Dispose of the rags as asbestos waste, as they will contain asbestos dust and fibres. • Seal the cut edges with sealant. • If a cable is to be passed through, insert a sleeve to protect the inner edge of the hole.
Decontaminating the asbestos work area and equipment	<ul style="list-style-type: none"> • Use damp rags to clean the equipment. • Carefully roll or fold any plastic sheeting used to cover any surface within the asbestos work area, so as not to spill any dust or debris that has been collected. • If necessary, use damp rags and/or an asbestos vacuum cleaner to clean any remaining visibly contaminated sections of the asbestos work area. • Place debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container.

SAFE WORK PRACTICE 1 – DRILLING OF ACM	
<p>The drilling of asbestos cement sheeting can release asbestos fibres into the atmosphere, so precautions must be taken to protect the drill operator and other persons from exposure to these fibres. A hand drill is preferred to a battery-powered drill, because the quantity of fibres is drastically reduced if a hand drill is used.</p>	
	<ul style="list-style-type: none"> Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.
<p>Personal decontamination should be carried out in a designated area</p>	<ul style="list-style-type: none"> If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth. While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
<p>Clearance procedure</p>	<ul style="list-style-type: none"> Visually inspect the asbestos work area to make sure it has been properly cleaned. Clearance air monitoring is not normally required for this task. Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>

SAFE WORK PRACTICE 2 – SEALING, PAINTING, COATING AND CLEANING OF ASBESTOS-CEMENT PRODUCTS	
<p>These tasks should only be carried out on asbestos that is in good condition. For this reason, the ACM should be thoroughly inspected before starting the work. There is a risk to health if the surface of asbestos cement sheeting is disturbed (e.g. from hail storms and cyclones) or if it has deteriorated as a result of aggressive environmental factors such as pollution. If it is so weathered that its surface is cracked or broken, the asbestos cement matrix may be eroded, increasing the likelihood that asbestos fibres will be released. If treatment is considered essential, a method that does not disturb the matrix should be used. Under no circumstances should asbestos cement products be water blasted or dry sanded in preparation for painting, coating or sealing.</p>	
<p>Equipment that may be required prior to starting work (in addition to what is needed for the task)</p>	<ul style="list-style-type: none"> Disposable cleaning rags A bucket of water, or more as appropriate, and/or a misting spray bottle Sealant Spare PPE A suitable asbestos waste container Warning signs and/or barrier tape.
<p>PPE</p>	<ul style="list-style-type: none"> Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed. Where paint is to be applied, appropriate respiratory protection to control the paint vapours/mist must also be considered.
<p>Preparing the asbestos work area</p>	<ul style="list-style-type: none"> If work is being carried out at heights, precautions must be taken to prevent falls. Before starting, assess the asbestos cement for damage. Ensure appropriately marked asbestos waste disposal bags are available. Carry out the work with as few people present as possible. Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. close door and/or use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. If working at a height, segregate the area below.

SAFE WORK PRACTICE 2 – SEALING, PAINTING, COATING AND CLEANING OF ASBESTOS-CEMENT PRODUCTS	
<p>These tasks should only to be carried out on asbestos that is in good condition. For this reason, the ACM should be thoroughly inspected before starting the work. There is a risk to health if the surface of asbestos cement sheeting is disturbed (e.g. from hail storms and cyclones) or if it has deteriorated as a result of aggressive environmental factors such as pollution. If it is so weathered that its surface is cracked or broken, the asbestos cement matrix may be eroded, increasing the likelihood that asbestos fibres will be released. If treatment is considered essential, a method that does not disturb the matrix should be used. Under no circumstances should asbestos cement products be water blasted or dry sanded in preparation for painting, coating or sealing.</p>	
	<ul style="list-style-type: none"> • If possible, use plastic sheeting secured with duct tape to cover any floor surface within the asbestos work area which could become contaminated. This will help to contain any runoff from wet sanding methods. • Ensure there is adequate lighting. • If using a bucket of water, do not resoak used rags in the bucket, as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag. • Never use high-pressure water cleaning methods. • Never prepare surfaces using dry sanding methods. Where sanding is required, you should consider removing the asbestos and replacing it with a non-asbestos product. • Wet sanding methods may be used to prepare the asbestos, provided precautions are taken to ensure all the runoff is captured and filtered, where possible. • Wipe dusty surfaces with a damp cloth.
Painting and sealing	<ul style="list-style-type: none"> • When using a spray brush, <i>never</i> use a high-pressure spray to apply the paint. • When using a roller, use it lightly to avoid abrasion or other damage.
Decontaminating the asbestos work area and equipment	<ul style="list-style-type: none"> • Use damp rags to clean the equipment. • If required, use damp rags and/or an asbestos vacuum cleaner to clean the asbestos work area. • Place debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container. • Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.
Personal decontamination should be carried out in a designated area	<ul style="list-style-type: none"> • If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth. • While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. • Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
Clearance procedure	<ul style="list-style-type: none"> • Visually inspect the asbestos work area to make sure it has been properly cleaned. • Clearance air monitoring is not normally required for this task. • Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>

SAFE WORK PRACTICE 2 – SEALING, PAINTING, COATING AND CLEANING OF ASBESTOS-CEMENT PRODUCTS	
<p>These tasks should only be carried out on asbestos that is in good condition. For this reason, the ACM should be thoroughly inspected before starting the work. There is a risk to health if the surface of asbestos cement sheeting is disturbed (e.g. from hail storms and cyclones) or if it has deteriorated as a result of aggressive environmental factors such as pollution. If it is so weathered that its surface is cracked or broken, the asbestos cement matrix may be eroded, increasing the likelihood that asbestos fibres will be released. If treatment is considered essential, a method that does not disturb the matrix should be used. Under no circumstances should asbestos cement products be water blasted or dry sanded in preparation for painting, coating or sealing.</p>	
<p>Equipment that may be required prior to starting work (in addition to what is needed for the task)</p>	<ul style="list-style-type: none"> • A bucket of water, or more as appropriate, and detergent • A watering can or garden spray • A hand trowel or scoop • Disposable cleaning rags • A suitable asbestos waste container • Warning signs and/or barrier tape • An asbestos vacuum cleaner.
<p>PPE</p>	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
<p>Preparing the asbestos work area</p>	<ul style="list-style-type: none"> • Since the work is to be carried out at a height, appropriate precautions must be taken to prevent the risk of falls. • Ensure appropriately marked asbestos waste disposal containers are available. • Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. • Segregate the area below. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
<p>Gutter cleaning</p>	<ul style="list-style-type: none"> • Disconnect or re-route the downpipes to prevent any entry of contaminated water into the waste water system and ensure there is a suitable container to collect contaminated runoff. Contaminated water must be disposed of as asbestos waste. • Mix the water and detergent. • Using the watering can or garden spray, pour the water and detergent mixture into the gutter but avoid over-wetting as this will create a slurry. • Remove the debris using a scoop or trowel. Do not allow debris or slurry to enter the water system. • Wet the debris again if dry material is uncovered. • Place the removed debris straight into the asbestos waste container.
<p>Decontaminating the asbestos work area and equipment</p>	<ul style="list-style-type: none"> • Use damp rags to wipe down all equipment used. • Use damp rags to wipe down the guttering. • Where practicable, and if necessary, use an asbestos vacuum cleaner to vacuum the area below. • Place debris, used rags and other waste in the asbestos waste container. • Wet wipe the external surfaces of the asbestos waste container to remove any adhering dust before it is removed from the asbestos work area.

SAFE WORK PRACTICE 3 – CLEANING LEAF LITTER FROM GUTTERS OF ASBESTOS CEMENT ROOFS	
Equipment that may be required prior to starting work (in addition to what is needed for the task)	<ul style="list-style-type: none"> • A bucket of water, or more as appropriate, and detergent • A watering can or garden spray • A hand trowel or scoop • Disposable cleaning rags • A suitable asbestos waste container • Warning signs and/or barrier tape • An asbestos vacuum cleaner.
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
Preparing the asbestos work area	<ul style="list-style-type: none"> • Since the work is to be carried out at a height, appropriate precautions must be taken to prevent the risk of falls. • Ensure appropriately marked asbestos waste disposal containers are available. • Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. • Segregate the area below. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
Gutter cleaning	<ul style="list-style-type: none"> • Disconnect or re-route the downpipes to prevent any entry of contaminated water into the waste water system and ensure there is a suitable container to collect contaminated runoff. Contaminated water must be disposed of as asbestos waste. • Mix the water and detergent. • Using the watering can or garden spray, pour the water and detergent mixture into the gutter but avoid over-wetting as this will create a slurry. • Remove the debris using a scoop or trowel. Do not allow debris or slurry to enter the water system. • Wet the debris again if dry material is uncovered. • Place the removed debris straight into the asbestos waste container.
Decontaminating the asbestos work area and equipment	<ul style="list-style-type: none"> • Use damp rags to wipe down all equipment used. • Use damp rags to wipe down the guttering. • Where practicable, and if necessary, use an asbestos vacuum cleaner to vacuum the area below. • Place debris, used rags and other waste in the asbestos waste container. • Wet wipe the external surfaces of the asbestos waste container to remove any adhering dust before it is removed from the asbestos work area.

<p>Personal decontamination should be carried out in a designated area</p>	<ul style="list-style-type: none"> • If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth. • While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. • Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
<p>Clearance procedure</p>	<ul style="list-style-type: none"> • Visually inspect the asbestos work area to make sure it has been properly cleaned. • Clearance air monitoring is not normally required for this task. • Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>

SAFE WORK PRACTICE 4 – REPLACE CABLING IN ASBESTOS CEMENT CONDUITS OR BOXES	
Equipment that may be required prior to starting the work (in addition to what is required for the task)	<ul style="list-style-type: none"> Disposable cleaning rags A bucket of water, or more as appropriate, and/or a misting spray bottle 200 µm thick plastic sheeting Cable slipping compound Appropriately marked asbestos waste disposal bags Spare PPE Duct tape Warning signs and/or barrier tape An asbestos vacuum cleaner.
PPE	<ul style="list-style-type: none"> Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
Decontaminating the asbestos work area and equipment	<ul style="list-style-type: none"> Use damp rags to clean the equipment. Wet wipe around the end of the conduit, sections of exposed cable and the pulling eye at the completion of the cable pulling operation. If the rope or cable passes through any rollers, these must also be wet wiped after use. Wet wipe the external surface of excess cable pulled through the conduit/duct, as close as possible to the exit point from the conduit, before it is removed from the work site. Carefully roll or fold any plastic sheeting used to cover any surface within the asbestos work area, so as not to spill any dust or debris that has been collected. If required, use damp rags or an asbestos vacuum cleaner to clean any remaining visibly contaminated sections of the asbestos work area. Place all debris, used rags, plastic sheeting and other waste in the asbestos waste bags/container. Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before they are removed from the asbestos work area.
Personal decontamination should be carried out in a designated area	<ul style="list-style-type: none"> If disposable coveralls are worn, clean the coveralls while still wearing RPE using a HEPA vacuum, damp rag or fine-water spray. RPE can be cleaned with a wet rag or cloth. While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
Clearance procedure	<ul style="list-style-type: none"> Visually inspect the asbestos work area to make sure it has been properly cleaned. Clearance air monitoring is not normally required for this task. Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
PPE	<ul style="list-style-type: none"> Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.

SAFE WORK PRACTICE 4 – REPLACE CABLING IN ASBESTOS CEMENT CONDUITS OR BOXES

<p>Preparing the asbestos work area</p>	<ul style="list-style-type: none"> • As the work area will involve electrical hazards, precautions must be taken to prevent electrocution. • Ensure appropriately marked asbestos waste disposal bags are available. • Carry out the work with as few people present as possible. • Segregate the asbestos work area to ensure unauthorised personnel are restricted from entry (e.g. use warning signs and/or barrier tape at all entry points). The distance for segregation should be determined by a risk assessment. • Use plastic sheeting secured with duct tape to cover any surface within the asbestos work area which could become contaminated. • Ensure there is adequate lighting. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
---	---

SAFE WORK PRACTICE 5 – WORKING ON ELECTRICAL MOUNTING BOARDS CONTAINING ASBESTOS

<p>If the asbestos-containing electrical mounting panel has to be removed for work behind the board, the procedures outlined in the Code of Practice: How to Safely Remove Asbestos must be followed. If drilling is required, the control process should be consistent with the measures in Safe Work Practice 1.</p>	
<p>Equipment that may be required prior to starting the work (in addition to what is required for the task)</p>	<ul style="list-style-type: none"> • A non-powered hand drill or a low-speed battery-powered drill or drilling equipment. Battery-powered drills should be fitted with a LEV dust control hood wherever possible. If a LEV dust control hood cannot be attached and other dust control methods, such as pastes and gels, are unsuitable then shadow vacuuming techniques should be used • Duct tape • Warning signs and/or barrier tape • Disposable cleaning rags • A plastic bucket of water and/or a misting spray bottle • Spare PPE • A suitable asbestos waste container • 200 µm plastic sheeting • An asbestos vacuum cleaner.

SAFE WORK PRACTICE 6 – INSPECTION OF ASBESTOS FRICTION MATERIALS	
This guide may be used when friction ACM (e.g. brake assemblies or clutch housings) need to be inspected or housings need to be cleaned. Compressed air must not be used to clean dust from a brake assembly.	
Equipment that may be required prior to starting the work (in addition to what is required for the task)	<ul style="list-style-type: none"> • A misting spray bottle • Duct tape • Warning signs and/or barrier tape • Disposable cleaning rags • A bucket of water and detergent • Spare PPE • A suitable asbestos waste container • A catch tray or similar container • An asbestos vacuum cleaner.
PPE	<ul style="list-style-type: none"> • Protective clothing and RPE (see AS1715, AS 1716). It is likely that a class P1 or P2 half face respirator will be adequate for this task, provided the recommended safe work procedure is followed.
Preparing the asbestos work area	<ul style="list-style-type: none"> • Ensure appropriately marked asbestos waste disposal bags are available. • Carry out the work with as few people present as possible. • Determine whether to segregate the asbestos work area • Ensure unauthorised personnel are restricted from entry by using barrier tape and/or warning signs. • Use a suitable collection device below where the work will be carried out to collect any debris/ runoff. • Ensure there is adequate lighting. • Avoid working in windy environments where asbestos fibres can be redistributed. • If using a bucket of water, do not resoak used rags in the bucket as this will contaminate the water. Instead, either fold the rag so a clean surface is exposed or use another rag.
Inspection of asbestos friction materials	<ul style="list-style-type: none"> • A misting spray bottle should be used to wet down any dust. If spray equipment disturbs asbestos, use alternative wetting agents e.g. a water-miscible degreaser or a water/detergent mixture. • Use the wet method, but if this is not possible the dry method may then be used. <p><u>Wet method:</u></p> <ul style="list-style-type: none"> • Use the misting spray bottle to wet down any visible dust. • Use a damp rag to wipe down the wheel or automobile part before removal. Ensure the dust is kept wet to prevent atmospheric contamination. • Use hand tools rather than power tools to reduce the generation of airborne fibres. • Partially open the housing and softly spray the inside with water using the misting spray bottle. Any spillage of dust, debris or water must be controlled (e.g. capturing any runoff in a container) and either filtered or disposed of as asbestos waste. • Open the housing and clean all asbestos parts using a damp rag, ensuring all runoff water is caught in an asbestos waste container. <p><u>Dry method:</u></p> <ul style="list-style-type: none"> • Place a tray under the components to catch dust or debris spilling from the housing or components during the inspection and dispose of any material as asbestos waste. • Use an asbestos vacuum cleaner to remove asbestos from the brakes and rims or other materials before carrying out the inspection.

SAFE WORK PRACTICE 6 – INSPECTION OF ASBESTOS FRICTION MATERIALS	
This guide may be used when friction ACM (e.g. brake assemblies or clutch housings) need to be inspected or housings need to be cleaned. Compressed air must not be used to clean dust from a brake assembly.	
Decontaminating the asbestos work area and equipment	<ul style="list-style-type: none"> Use damp rags to clean the equipment, including the dust collection tray. If necessary, use damp rags or an asbestos vacuum cleaner to clean any remaining visibly contaminated sections of the asbestos work area. Place debris, used rags and other waste in the asbestos waste bags/container. Wet wipe the external surfaces of the asbestos waste bags/container to remove any adhering dust before removing them from the asbestos work area.
Personal decontamination should be carried out in a designated area	<ul style="list-style-type: none"> If disposable coveralls are worn, clean the coveralls and RPE while still wearing them using an asbestos vacuum cleaner, damp rag or fine-water spray. RPE can be cleaned with a wet rag/cloth. While still wearing RPE, remove coveralls, turning them inside-out to entrap any remaining contamination and then place them into a labelled asbestos waste bag. Remove RPE. If non-disposable, inspect it to ensure it is free from contamination, clean it with a wet rag and store in a clean container. If disposable, cleaning is not required but RPE should be placed in a labelled asbestos waste bag or waste container. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>
Clearance procedure	<ul style="list-style-type: none"> Visually inspect the asbestos work area to make sure it has been properly cleaned. Clearance air monitoring is not normally required for this task. Dispose of all waste as asbestos waste. <p>Refer to the Code of Practice: How to Safely Remove Asbestos for more information.</p>

Appendix 5 – Health Aspects of Exposure to Airborne Asbestos Fibres

Extract from *Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)] Part 6*

- Asbestos is a known carcinogen. The inhalation of asbestos fibres is known to cause mesothelioma, lung cancer and asbestosis.
- **Malignant mesothelioma** is a cancer of the outer covering of the lung (the pleura) or the abdominal cavity (the peritoneum). It is usually fatal.
- Mesothelioma is caused by the inhalation of needle-like asbestos fibres deep into the lungs where they can damage mesothelial cells, potentially resulting in cancer.
- The latency period is generally between 35 and 40 years, but it may be longer, and the disease is very difficult to detect prior to the onset of illness.
- Mesothelioma was once rare, but its incidence is increasing throughout the industrial world as a result of past exposures to asbestos. Australia has the highest incidence rate in the world.
- **Lung cancer** has been shown to be caused by all types of asbestos. The average latency period of the disease, from the first exposure to asbestos, ranges from 20 to 30 years. Lung cancer symptoms are rarely felt until the disease has developed to an advanced stage.
- **Asbestosis** is a form of lung disease (pneumoconiosis) directly caused by inhaling asbestos fibres, causing a scarring (fibrosis) of the lung tissue which decreases the ability of the lungs to transfer oxygen to the blood. The latency period of asbestosis is generally between 15 and 25 years.
- Asbestos poses a risk to health by inhalation whenever asbestos fibres become airborne and people are exposed to these fibres.
- Accordingly, exposure should be prevented. The NES of 0.1 fibres/mL should never be exceeded, and control measures should be reassessed whenever air monitoring indicates the 'control level' of 0.01 fibres/mL has been reached. The Code of Practice for the Safe Removal of Asbestos [NOHSC:2002(2005)] provides additional information on control levels.
- ACM can release asbestos fibres into the air whenever they are disturbed, and especially during the following activities:
 - any direct action on ACM, such as drilling, boring, cutting, filing, brushing, grinding, sanding, breaking, smashing or blowing with compressed air (State and Territory legislation prohibits most of these actions, and the relevant laws should be checked before performing any activity on ACM);
 -
 - the inspection or removal of ACM from workplaces (including vehicles, plant and equipment);
 -

- the maintenance or servicing of materials from vehicles, plant, equipment or workplaces; or
 -
- the renovation or demolition of buildings containing ACM.

Non-friable ACM that has been subjected to extensive weathering or deterioration also has a higher potential to release asbestos fibres into the air.

Appendix 6 – Awareness Training for Department of Community (Housing) Employees, Maintenance Contractors and Others

Extract from *Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)] Part 7.2*

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

Depending on the circumstances this asbestos awareness training may include:

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

Appendix 7 – References and Resources

REFERENCES

1. Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)]
2. Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)]
3. Health and Safety Executive (2012) Asbestos Survey Guide HSG264 2nd Edition

Resources

- **Brochure: Asbestos regulators and information sources**
<http://ww2.health.wa.gov.au/~media/Files/Corporate/general%20documents/Asbestos/PDF/12051-Domestic-Asbestos-Concerns-Bro.pdf>
- **Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in WA.** http://ww2.health.wa.gov.au/Articles/A_E/Asbestos-contaminated-sites
- **Guidance Note on Asbestos Cement Fences (Department of Health)**
<http://ww2.health.wa.gov.au/~media/Files/Corporate/general%20documents/Asbestos/PDF/GuidanceNoteonAsbestosCementFencesFeb16.pdf>
- Department of Community (Housing)- Asset Management Asbestos Home Page for information about the BCA-ACM System, Asbestos Register, Business Procedures [only avail to Department of Community (Housing) employees]
<https://wahousing.sharepoint.com/teams/APM/Pages/Asbestos.aspx>
- Department of Community (Housing) Fact Sheet – ASBESTOS Information for Tenants
http://www.housing.wa.gov.au/HousingDocuments/Asbestos_Information_for_Tenants.pdf