



Asbestos Removal Control Plan for Demolition



Safe Work Method Statement

12 Kintore Street, Yarralumla ACT

Contents

Executive Summary	4
Document History	5
1. Purpose	5
2. Scope	5
3. Actions	6
3.1 Legislative Requirements	6
3.2 Airborne Asbestos Fibres Exposure Health Risks	6
4. Definitions	7
5. Responsibilities	9
6. Principles of Asbestos Removal Control Plan	11
6.1 General Principles	11
6.2 Risk Assessment	12
6.3 Controlling Asbestos Hazards	13
7. Safe Work Practices	14
7.1 Tools and Equipment	14
7.2 Prohibited Practices	14
8. Asbestos Removal	14
8.1 General	14
8.2 Removal Procedures	15
8.2 .1 Asbestos removal control plan	16
8.3 Communications	17
8.4 Removal Program	17
8.5 Air Monitoring	18
8.5.1 Control Levels for monitored airborne asbestos fibres	19
9. Waste Removal and Disposal	19
9.1 Waste Removal and Containment	19
9.2 Off-site Waste Disposal	21
10. Project Supervision	21
11. Clearance Inspections	21
12. Emergency Response Procedures	22
12.1 Evacuation Event	22



13. Awareness Training	23
14. Asbestos Exposure Register	23
15. Health Surveillance	23
16. Reference Documentation	23
Appendix 1: Asbestos Register	24
Appendix 2: Methodology of Site Activity	25
Appendix 3: ECOFOAM GP330 POLYOL	31
Appendix 4 Truck Route Map	46



Executive Summary

A detailed, site specific Asbestos Removal Control Plan (ARCP) is to be developed by Group 8 Environmental Pty Ltd in consultation with the Class A Removalists and licensed demolition contractor, prior to commencing the asbestos removal work, which will precede the eventual demolition of the dwelling. The Asbestos Removalist is also required to prepare a Safe Work Method Statement and environment analysis specific to the proposed removal job. The document will detail the way the work is to be performed, the specific control measures to be used, how they will be implemented and how their effectiveness is to be monitored and reviewed.

The removal of ACM will require an asbestos removal work area set up appropriate to the level of risk outlined in the risk assessment to ensure that the workplace exposure limits are not breached. Asbestos warning tape and warning signs are to be displayed.

Asbestos Removalists are to be appropriately licensed in accordance with ACT Governments regulations and the Workplace Health and Safety legislation.

As the dwelling is double brick, a different methodology to a brick veneer dwelling is adopted. Prior to writing this ARCP an asbestos survey was completed by a suitably qualified Class A Assessor, an Asbestos register of all bonded and friable asbestos is identified. The Class A Removalist will remove all accessible asbestos identified and double bag for safe disposal to West Belconnen Resource Management Centre.

Wall cavities, where fibres can penetrate, will be filled with an expanding foam to lock any random fibres from being released during demolition. The ceiling will be removed, allowing the Class A Removalist to vacuum timber roof trusses, internal rooms, and all dust and/or fibres laying within the structure. Following a detailed vacuum of the entire building, the sub-floor, ceiling cavity and remaining areas will be heavily sprayed with a pigmented PVA solution to lock in any random fibres still remaining prior to demolition.

During demolition and preparing the dwelling for transportation to the landfill, water misting will occur to prevent fibres release. During every phase of the demolition, neighbour consultation, air monitoring will be conducted to ensure neighbourhood safety.

Counselling and providing information will be conveyed to every neighbour, outlining timeframes, risk minimization techniques and answering any question, that we are capable and qualified to answer.

Once the dwelling is removed off-site 100mm of soil from the footprint of the dwelling (+1 metre) will be removed and classified as ACM soil. Soil sampling will be conducted in a grid format using Western Australian guidelines. Finally soil samples will be collected, along with air monitoring samples will be analysed by a NATA laboratory prior to issuing a Clearance Certification for the block and section number.

Environmental controls such as air monitoring, soil sampling, water run-off collection, will be implemented to safeguard the environment. No demolition will occur if parameters such as wind speed, excessive rain or neighbourhood concern (unresolved) are evident.



Document History

Issue Date:	Nature of Changes
10 September 2014	Creation of Document
29 September 2014	Final Review
02 October 2014	PDF for emailing and circulation
09 October 2014	Revised document after consultation with WorkSafe
11 October 2014	Final revision

1. Purpose

Group 8 Environmental Pty Ltd (Group 8) has been engaged by Ozmik Constructions Pty Ltd to carry out the project of “Removal of asbestos and demolition of loose fill asbestos home” complying with section 274 of the Work Health and Safety Act (the WHS Act). Group 8 has been contracted, to fulfil all obligation in regards to:

- Codes of Practice WHS Act;
- Compliance with Duty of Care;
- All health and safety duties in the WHS Act;
- Dangerous Substances (General) Regulation 2004;
- Risk Management Assessment;
- Comparison assessment between industry standards and WHS Act, finding technical and higher standard of work and safety – using and adopting such standard;
- Methodology of Class A Removalists;
 - Asbestos removal prior to physical demolition;
- Methodology of physical demolition; and
- Certification of KPI's.

It is understood that any inspector of the ACT Government may refer to an approved code of practice when using an improvement or prohibition notice.

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.

2. Scope

Group 8 Environmental Pty Ltd is the identity conducting a business or undertaking (PCBU), which is the primary company responsible for the safe and legal demolition of the property known as 12 Kintore Crescent, Yarralumla in the Australian Capital Territory (the site). Group 8 employs two Class A Asbestos Assessors, who have experience in asbestos assessments of loose fill asbestos homes. Under the guidance and control of Group 8, the Class A Removalist, (Crown Independence Pty Ltd) and demolition contractor (ABAC Earth works and Demolition).

The engagement of Group 8 by Ozmik Constructions Pty Ltd (Project Managers) is to take control of the site, provide the methodology, supervision and compliance with WHS Act. Group 8 will also comply with the Code of Practice to oversee safe asbestos removal of all bonded asbestos of the entire property, preparedness of the remaining building for safe demolition by licensed demolition contractor.



Group 8's Class A Licensed asbestos assessor's will:

- Conduct all site inductions in the demolition phase;
- Conduct risk assessments on all operations until final clearance certificate is provided;
- Issue all Clearance Certificates required;
- Conduct air monitoring and have analysed by a NATA accredited laboratory; and
- Manage neighbour concerns and provide factual confidence of the safety of neighbouring properties.

3. Actions

3.1 Legislative Requirements

The Asbestos Removal Control Plan (ARCP) will comply (currently draft) Code of Practice and with all WHS Act appropriate sections including Western Australian Guidelines for the Assessment and Remediation of Asbestos Contaminated Sites in WA (2009).

In addition to the draft Code of Practice the following will be complied to:

- Safe Removal of Asbestos 2nd Edition [NOHSC: 2002 (2005)];
- Part 4.6 of WHS regulations: Demolition;
- Chapter 6 of WHS regulations: Construction Work;
- Model Code of Practice: How to Manage Asbestos;
- NOHSC Guidance Note on the Membrane Filter Method (2005);
- Australian Guidelines for Urban Stormwater Management 2000;
- Code of Practice for the Management and Control of Asbestos in the Workplace 2005;
- Demolition Work Code of Practice; and
- AS 4687 Temporary fencing and hoardings and AS 1725 Chain-link fabric security fencing and gates.

3.2 Airborne Asbestos Fibres Exposure Health Risks

Asbestos is a carcinogen and 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 National Exposure Standard (NES) of 1.1 fibres/mL should never be exceeded, and control measures are to 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;
- 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.

4. Definitions

Air Monitoring means airborne asbestos fibre sampling to assist in assessing exposures and the effectiveness of control measures. Air monitoring includes exposure monitoring, control monitoring and clearance monitoring.

Note: Air monitoring is to be undertaken in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003 (2005)].

Airborne Asbestos Fibres means any fibres of asbestos small enough to be made airborne. For the purposes of monitoring airborne asbestos fibres, only respirable asbestos fibres (those fibres less than 3 µm wide, more than 5 µm long and with a length to width ratio of more than 3 to 1) are counted.

Note: Airborne asbestos fibres are generated by the mechanical disintegration of Asbestos-Containing Materials (ACM) and subsequent dispersion of the fibres into the air from activities such as mining and the use, removal and disposal of asbestos and ACM. Airborne dust has the potential to contain respirable asbestos fibres.

Asbestos means the fibrous form of mineral silicates belonging to the serpentine and amphibole groups of rock-forming minerals, 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-Containing Material (ACM) means any material, object, product or debris that contains asbestos.

Note: Information for determining if a material contains asbestos is provided in [NOHSC: 2018 (2005)] Appendix A - Examples of Asbestos-Containing Materials.

Asbestos Management Code means NOHSC's Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)]

Asbestos Removalist means a competent person who performs asbestos removal work.
Note: An asbestos removal licence is required in Queensland for the removal of any quantity of friable ACM. Queensland also requires a licence for the removal of 10m² or more of bonded asbestos.

Asbestos Removal Code means the NOHSC's Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002 (2005)]

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, and 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.
Note: The asbestos work area includes the boundaries of an enclosure or barriers set up to warn or restrict access to the area where the asbestos work is being undertaken.

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.
Note: A clearance inspection should only be carried out when the asbestos work area is dry.

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.
Note: Static or positional samples are taken at fixed locations which are usually between one and two meters above floor level.

Competent Person (asbestos removal) means a person who has received specific training for asbestos removal from a Registered Training Organization (RTO) as well as sufficient knowledge, experience and skill and is working under the direction of a Certified Asbestos Removalist. The person must be directly engaged with the work and supervise the asbestos removal.
Note: A license may be required for some of the tasks described in this document as requiring a competent person.

Control Level means the airborne concentration of a particular substance, which, if exceeded, indicates a need to implement a control, action or other requirement. Control levels are generally set at no more than half the National Exposure Standard (NES) for the substance. Control levels are occupational hygiene 'best practice', and are not health-based standards.



Note: The first Control Level for Asbestos is set at 0.01 fibres/mL of air.

Control Monitoring means air monitoring, using static or positional to measure the level of airborne asbestos fibres in an area during work on ACM. 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.

Note: Static or positional samples are taken at fixed locations which are usually between one and two meters above floor level.

Exposure Monitoring means air monitoring to determine a person's likely exposure to a hazardous substance. Exposure monitoring is designed to reliably estimate the person's exposure, so that it may be compared with the NES.

Note: Exposure monitoring includes airborne asbestos fibre sampling, analysis, estimation of time-weighted average exposure and interpretation. Samples are taken within the breathing zone and are usually obtained by fastening the filter holder to the worker's jacket lapel.

Friable (Asbestos) means asbestos-containing material which, when dry, is or may become crumbled, pulverized or reduced to powder by hand pressure.

Note: This may include ACM that have been subjected to conditions that leave them in a state where they meet the above definition, such as weathering, physical damage, water damage etc.

In situ means fixed or installed in its original position, not having been moved.

National Exposure Standard (NES) means an airborne concentration of a particular substance, within the worker's breathing zone, which according to current knowledge, should not cause adverse health effects or undue discomfort to nearly all workers. NES are established, from time to time, by the National Occupational Health and Safety Commission (NOHSC) and are published on the NOHSC website.

Note: The NES for all forms of asbestos is 0.1 fibres/mL of air, measured using the Membrane Filter Method (MFM).

Personal Protective Equipment (PPE) means equipment and clothing that is used or worn by an individual person to protect them against, or minimize their exposure to, workplace risks. It includes items such as facemasks and respirators, coveralls, goggles, helmets, gloves and footwear, (refer to Appendix C – "Guide to the selection of respiratory protection" in the Code of Practice for the Safe Removal Of Asbestos NOHSC: 2002).

Respirable Asbestos Fibre means a fibre of asbestos small enough to penetrate into the gas exchange regions of the lungs.

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

Note: In this document, risk relates to illness or disease arising from exposure to airborne asbestos fibres.

5. Responsibilities

Principal Adviser Health & Safety

- Approve ARCP; and
- Ensure compliance with ARCP.

Site Manager

- Ensure resources are allocated to enable thorough application of ARCP on site;
- Ensure employees and contractors are made available for asbestos awareness training and asbestos removal work;
- Ensure the Plant and Building Asbestos Material and Products Register is maintained for the site; and



- Ensure the Asbestos Exposure Register is maintained for the site.

Supervisory Personnel

- Ensure persons involved with asbestos work have attended asbestos training;
- Inform the Site Asbestos Officer of any asbestos work and obtain Form S1817 prior to work commencing;
- Ensure legislative requirements and appropriate procedures are complied with; and
- Report immediately to supervisor any perceived asbestos risk.

Site H&S Coordinator

- Identify and bring to the attention of appropriate employees any suspect material;
- Ensure all contractors working on asbestos are aware of and meet the requirements of the AMP;
- Review Asbestos Removal Control plan, safe work method statements (SWM) and other documents produced by the certificated removalist.; and
- Checklist for the Removal of Friable Asbestos.

Site Asbestos Officer

- Ensure a hard copy of the Class A Asbestos Assessor's Survey Report is available and accessible by anyone entering the site to perform work;
- Ensure contractors, employers or others who propose to dismantle any part of a building are given relevant details from the register or a copy of the register;
- Review Asbestos Removal Control Plan and other SWM statements documents produced by the certified removalist and/or assessor;
- Ensure where a person is exposed to asbestos the process outlined in personal exposure register is followed;
- Manage asbestos works removal programs including providing the required information for reporting; and
- Provide primary point of contact for site related asbestos issues.

Contracts Administrator

- Ensure that a WHS Plan and SWMS (Safe work method statement) are prepared by the holder of the Asbestos Removalist certificate;
- Ensure adequate resources are allocated for asbestos work;
- Ensure contractors and workers involved in asbestos work are advised of the ARCP and any associated procedures; and
- Ensure all workers involved in asbestos removal works are trained.



Competent Person for Asbestos Removal Work

- Develop, review and approve asbestos removal health and safety plans, safe work method statements;
- Supervise and consult with workers on all asbestos removal works;
- Ensure all workers involved in major and minor asbestos removal works are trained;
- Ensure compliance with all legislative requirements on all asbestos removal projects;
- Conduct inspections on asbestos removal works using checklist for the Removal of Friable and Bonded Asbestos; and
- Conduct asbestos removal work safety inspections regularly.

Class A Asbestos Assessor – Sample Collection

- Organize the collection of samples to be analyzed for asbestos content;
- Dispatch the samples for analysis to an appropriate NATA facility; and
- Coordinate the provision of testing and obtaining any subsequent reports.

Contractors

- Bring to the attention of the Contract Administrator of any suspected asbestos material;
- Submit risk assessment and HSE plans when performing asbestos removal work;
- Undergo site induction;
- Ensure no asbestos is removed or disturbed without prior notification to their contract administrator or the Site Asbestos Officer;
- Ensure legislative requirements and appropriate procedures are complied with; and
- Report immediately to supervisor any perceived asbestos risk.

Employees

- Comply with the Site ACRP and any associated procedures;
- Attend and comply with associated ACRP training;
- Ensure no asbestos is removed without prior notification to their supervisor, contract administrator or Site Asbestos Officer; and
- Report asbestos related hazards to the Site Asbestos Officer or supervisor immediately.

6. Principles of Asbestos Removal Control Plan

6.1 General Principles

Group 8 principles of asbestos management have been adapted from the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)]. These principles are summarized below:

- Group 8 ultimate goal is for the site to be free of ACM;

- The removal of ACM during the pre-demolition and demolition phases, will be secondary, (where practicable), in preference to other control measures such as enclosure, encapsulation or sealing;
- Reasonable steps will be taken to identify all possible locations of ACM. Where ACM is identified or presumed, the locations must be labeled and recorded in the Building Survey Report and Asbestos Register;
- A risk assessment must be conducted for all identified or presumed ACM;
- Control measures will be established to prevent exposure to airborne asbestos fibres and will take into account the results of risk assessments conducted for the identified or presumed ACM;
- If ACM is identified or presumed, workers will be consulted, involved and information provided during implementation of control measures; and
- Class A Asbestos Assessor will be involved in the identification of ACM and conducting risk assessments.

All workers and contractors on premises where ACM are present, and all other persons who may be exposed to ACM, must be provided with full information on the occupational health and safety consequences of exposure to asbestos and appropriate control measures.

6.2 Risk Assessment

The asbestos risk assessment process involves identifying, analyzing, evaluating, controlling and monitoring sources of asbestos within the building or other structures. The presence of asbestos within the building is considered a hazard, but the level of risk associated with the hazard is related to the presence of airborne fibres. The identification of asbestos within a building doesn't automatically necessitate its immediate removal.

A qualitative risk assessment is undertaken and these ratings are defined as follows:

Significant/High risk: friable (un-bonded) ACM that has deteriorated significantly. The material is readily accessible and prone to further disturbance, or unsealed friable asbestos material located in air conditioning systems.

Moderate risk: minor deterioration of the ACM is evident and/or the ACM is prone to mechanical disturbance due to routine building activity and/or maintenance.

Low risk: ACM shows no signs or very minor signs of damage/deterioration. Regular access to the ACM is unlikely to cause significant deterioration, if the material is adequately sealed.

If materials of unknown composition, or materials suspected of containing asbestos, are encountered on site, and are not documented in the existing asbestos register, such materials are to be sampled and treated as asbestos until sample analysis confirms otherwise. In the event that the demolition works are to be carried out in areas previously not inspected for the presence of asbestos, such as inaccessible wall cavities or beneath floors, an inspection and risk assessment must be performed by an appropriately qualified person prior to the commencement of the planned demolition works.

The risk assessment of ACM is to be reviewed when:

- There is evidence that the risk assessment is no longer valid;
- There is evidence that control methods are not effective;
- A significant change is proposed for the workplace or work practices or procedures relevant to the risk assessment;
- There is a change in condition of the ACM; and
- The ACM have been removed, enclosed or sealed.

6.3 Controlling Asbestos Hazards

In line with all available Codes of Practice. Control measures will be implemented based on the level of risk of exposure to asbestos containing materials at the site. 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 removed by a certified 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 demolition is possible; and
- If the ACM is not friable and is in a good stable condition then the ACM will be removed and double wrapped in plastic for appropriate disposal using appropriate controls.

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

Elimination/Removal

Removal is the preferred control option because it removes the hazard from the building. The removal process does pose an increased risk to personnel engaged in the removal.

Asbestos removal work is to be performed by a certified Asbestos Removalist, with the appropriate license according to the type of ACM being removed. Asbestos removal work must be conducted in accordance with the Code of Practice for Safe Removal of Asbestos [NOHSC: 2002 (2005)].

Enclosure/Isolation

This method involves installing a barrier between the ACM and adjacent areas. This inhibits further mechanical damage to the asbestos and some friable products may be candidates for enclosure if removal is not an option. The type of barrier installed may include double brick cavity walls or sheet metal constructed as boxing a cladding around the asbestos.

Safe Work Practices

The asbestos register for the site is available and must be consulted prior to commencing work, if that work could result in the generation of airborne asbestos fibres. If, after consultation with the register and conducting a risk assessment, it is determined that the



type of work and the location of work to be performed would result in an unacceptable level of risk, other controls are required to be implemented.

Personal Protective Equipment (PPE)

The PPE requirements for work involving ACM at the site are to be based on the relevant risk assessment conducted by a suitably qualified person. Section 9.7 and Appendix C of the Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002(2005)] must be consulted to determine the PPE needs, as well as AS/NZS 1715 and AS/NZS 1716 for specific respiratory protection requirements. See NOHSC: 2002 (2005) Appendix C – Guide to the selection of respiratory protection.

Protective clothing and equipment is to be worn at all times during work in the asbestos work area, prior to the final clearance inspection. Any PPE worn during asbestos disposal is to be treated as asbestos waste and disposed of in the approved waste bags. **The laundering of contaminated protective clothing in workers' homes is strictly prohibited.**

7. Safe Work Practices

7.1 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

7.2 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.

8. Asbestos Removal

8.1 General

A detailed site specific Asbestos Removal Control Plan is to be developed by Group 8 in consultation with the Class A Removalists prior to commencing the asbestos removal work. This document must be provided to the Site Asbestos Officer before work commences. The Asbestos Removalist is also required to prepare a Safe Work Method Statement and environment analysis specific to the proposed removal job. The document must detail the way the work is to be performed, the specific control measures to be used, how they will be implemented and how their effectiveness is to be monitored and reviewed.

The removal of ACM will require an asbestos removal work area set up appropriate to the level of risk outlined in the risk assessment to ensure that the workplace exposure limits are not breached. Asbestos warning tape and warning signs are to be displayed.

Asbestos Removalists are to be appropriately licensed in accordance with the Workplace Health and Safety legislation. These specify that:

An “**A Class**” asbestos removal license, also known as Asbestos Removal Business Certificate, be acquired for the removal of friable asbestos containing material but the license also covers the removal of bonded asbestos material of 10sqm or more.

A “**B Class**” asbestos removal license is acquired for work to remove 10sqm or more of bonded asbestos material. This license DOES NOT permit its holder to remove friable asbestos.

Asbestos Removalists must also have a current Workers Compensation Insurance Professional Indemnity and Public Liability Policies.

8.2 Removal Procedures

Work Procedures (depending on the type of ACM being removed, whether it is bonded or friable), are to ensure that exposure to airborne asbestos fibres is minimized and remain under the control levels and exposure standards.

The control levels shown in the table below are to be used for the purposes of determining the effectiveness of control measures adopted:

Control level (airborne asbestos fibres/mL)	Control / Action
< 0.01	Continue with control measures
≥ 0.01	Review control measures
≥ 0.02	Stop removal work and find the cause

The Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)] details procedures to be strictly followed when any of the following materials are removed:

- Asbestos-Cement Products
- Vinyl Floor Tiles and Sheet Vinyl containing asbestos
- Asbestos backed vinyl and millboard from beneath a vinyl floor
- Asbestos gaskets and ropes from heater and cookers equipment
- Asbestos switchboards or meter boards
- Asbestos mastics and bitumen
- Removal of fibro containing ACM

The removal of friable ACM from hot metal presents one of the worst conditions for

removal due to airborne asbestos fibres being able to readily spread on convection currents in the air. All removal work (except emergencies) needs to be adequately scheduled and planned around outages, with sufficient time being allowed for bubble construction before work begins.

Removal is also to include a program of air monitoring and reporting of the results and documents to the Site Asbestos Officer.

8.2.1 Asbestos removal control plan

The asbestos removalist is to develop a site-specific control plan before commencing any asbestos removal work. The asbestos removal control plan is to include specifications and/or drawings addressing at least all of the items, which are relevant to the particular removal job. Additional information should be included for each individual removal job as necessary. The asbestos removal control plan is to be provided to the Site Asbestos Officer for review and consent.

TABLE 1 – COMPONENTS OF THE ASBESTOS REMOVAL CONTROL PLAN

The following information is to be included in the asbestos removal control plan for buildings, structures, plant and equipment.

1. Identification	Details of the ACM to be removed (e.g. the location(s), whether it is friable or non-friable, type, condition and the quantity to be removed)
2. Preparation	- Consultation - Assigned responsibilities for the removal - Program of commencement and completion dates - Emergency Plans - Asbestos removal boundaries, including the type and extent of isolation required and the location of any signs and barriers. - Control of electrical and lighting installations - Personal protective equipment (PPE) to be used, including respiratory protective equipment (RPE) - Details of air monitoring program - Waste storage and disposal program.
3. Removal	- Methods for removing the ACM (wet or dry methods) - Asbestos removal equipment (spray equipment, asbestos vacuum cleaners, cutting tools, etc). - Details on required enclosures, including details on their size, shape structure, etc, smoke testing enclosures, and the location of negative pressure exhaust units. - Details on temporary buildings required by the asbestos removalist (e.g. decontamination units), including details on water, lighting and power requirements, negative air pressure exhaust units and the locations of decontamination units. - Other control measures to be used to contain asbestos within the asbestos work area.
4. Decontamination	Detailed procedures for workplace decontamination, the decontamination of tools and equipment, personal decontamination and the decontamination of non-disposable PPE and RPE.

5. Waste Disposal	• Methods of disposing of asbestos wastes, including details on the disposal of: - disposable protective clothing and equipment, and - the structure(s) used to enclose the removal area.
6. Air Monitoring	• Location, types and methods, for monitoring airborne fibres and dusts. • Ways of communicating monitoring results to workers
7. Training	• Training that reflects the specific types of asbestos work to be undertaken. • Keeping written records of inductions and asbestos awareness training.
8. Health Surveillance	• Details on any exposures to asbestos by workers. • Details on all asbestos workers health records

8.3 Communications

The removal of ACM on site requires certain people to be informed of the processes involved. This communication will ensure those involved and impacted upon will have a better understanding of the process.

The job that requires more than a few items or large areas of ACM to be removed. It may be of moderate/significant or high risk, is in a location that will cause disruption to the building/plant area occupants during the removal process and is to include visible asbestos warning barricading and signage.

The Site Asbestos Officer is to conduct a meeting with the Site Management Team and the Workplace Health and Safety Committee. Topics discussed are to include relevant details of the job: -

- the asbestos removal control plan,
- areas/locations affected,
- times and dates of removal,
- safety precautions,
- risk of the materials being removed,
- areas that will be closed during the removal, and
- risks and health effects of exposure to asbestos.

This meeting is to be held well in advance of the actual asbestos removal so that the Site Manager, Superintendents and Supervisors can then have a team meeting to disseminate the information.

A record of the toolbox topics discussed as well as of those in attendance is to be kept and copies of the checklists are also to be kept.

8.4 Removal Program

The removal of ACM at the site will be based on the following guidelines in order of priority:

1. Removal of any friable ACM as identified on the register and any other friable



situation as identified

2. Removal of any ACM involved in any refurbishment job, overhaul or forced outage
3. Removal of all bonded ACM impacted upon during demolition work

8.5 Air Monitoring

Air monitoring is to be performed wherever ACM are being removed, to ensure the control measures are effective.

The competent person for the monitoring requirements. The monitoring program will address:

- The location, rate and frequency of sampling;
- Whether it is necessary to monitor air quality in areas adjacent to, above and below the asbestos work area, taking account of the potential exposures of occupants of these areas; and
- Whether additional asbestos removal control plan is to determine all air sampling is warranted in (for example) nearby high occupancy areas.

A documented air-monitoring program is to be developed. The air-monitoring program is to include requirements for clearance monitoring. An air-monitoring program is recommended for the removal of non-friable ACM, as it is good occupational hygiene practice. The air monitoring is to be performed in accordance with the NOHSC Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [(NOHSC: 3003 (2005))].

Asbestos removal work must not commence until the air monitoring has commenced.

If an enclosure is used, air monitoring is to occur:

- Prior to any work (background monitoring);
- At least daily at the boundary of the asbestos work area;
- As part of preliminary clearance monitoring, following a satisfactory visual inspection;
- During dismantling of the enclosure, and
- As part of the final clearance inspection.

If an enclosure and a decontamination unit are used, air quality must be monitored at the following locations:

- The clean side of the decontamination unit;
- The change area;
- The lunch room (where applicable)

The laundry; and

- The surroundings of the asbestos work area including in the vicinity of the negative air exhaust (where possible).

Note: air monitoring of the exhaust from the extraction unit is a specialised task. The membrane filter method (FMF) is unsuitable, because the results obtained do not always truly reflect actual fibre concentrations in the exhaust air, and air monitoring devices should not be positioned at the

exit point of a negative pressure exhaust air unit, because this can lead to unwarranted confidence in the filter's integrity.

The results of all air monitoring are to be provided to all relevant parties as soon as possible.

8.5.1 Control Levels for monitored airborne asbestos fibres.

“Control levels” are airborne asbestos fibre concentrations, which, if exceeded, indicate there is a need to review current control measures or take other action. These control levels are occupational hygiene “best practice” and are not health-based standards (they are below the concentration set in the NES for asbestos).

The control levels shown in the table below are to be used to determine the effectiveness of control measures:

Control levels and required actions

Control Level (airborne asbestos fibres/mL)	Control/Action
<0.01	Continue with control measures
≥0.01	Review control measures
≥0.02	Stop removal work and find the cause

8.5.2 Decontamination

The type of decontamination required will depend on the type of asbestos (i.e. friable or non friable), the work methods used and the removal area site conditions.

9. Waste Removal and Disposal

9.1 Waste Removal and Containment

Asbestos waste, including contaminated PPE and cleaning materials (e.g. cleaning rags and plastic sheeting used to cover surfaces in the asbestos work area) are to be removed and disposed of into bags.

Loose asbestos waste is not to be allowed to accumulate within the asbestos work area. It must be collected and disposed of in asbestos waste bags and/or in a solid, sealable asbestos waste container, such as a bin or drum, if storage is required.

Controlled wetting of asbestos waste is to be done to reduce the possibility of dust emissions during the bagging or other containment of the waste.

If asbestos waste cannot be disposed of immediately (e.g. because of volume requirements for disposal), it is to be stored in a solid waste drum, bin or container or skip and sealed and secured upon the completion of each day's work so that unauthorized access is prevented.

Waste Bags: - asbestos waste is to be collected in heavy-duty 200 µm (minimum thickness) polythene bags that are no more than 1,200 mm long and 900 mm wide. The



bags are to be labeled with an appropriate warning, clearly stating that they contain asbestos and that dust creation and inhalation should be avoided.

An example of a warning statement, which might be used, is:

CAUTION – ASBESTOS. DO NOT DAMAGE OR OPEN BAG. DO NOT INHALE DUST. CANCER AND LUNG DISEASE HAZARD.

Only previously unused bags are to be used, and bags marked for asbestos waste are not be used for any other purpose. Hard and sharp asbestos waste requires preliminary sealing or a protective covering before it is placed in the waste bags, to minimize the risk of damage to the bags.

In order to further minimize the risk of a bag tearing or splitting, and also to assist in manual handling, asbestos waste bags are not to be filled more than half full and excess air should be gently evacuated from the waste bag, in a manner that does not cause the release of dust. Consistent with good manual handling practices, the weight of the bags should also not exceed 16kg.

The bags are to be twisted tightly, folded over and the neck secured in the folded position with adhesive tape or any other effective method. The external surface of each bag is to be cleaned to remove any adhering dust before the bag is removed from the asbestos work area. All asbestos waste is to be double bagged outside the work area immediately following the decontamination process.

Waste drums and bins: - all drums or bins used for the storage and disposal of asbestos waste must be in a good condition, with lids and rims in good working order, and free of hazardous residues.

The drums or bins must be lined with plastic (minimum 200 µm thickness), and labels warning of the asbestos waste are to be placed on the top and side of each drum or bin, with the words, 'Danger: asbestos. Do not break seal' or a similar warning.

If the drum or bin is to be re-used, the asbestos waste must be packed and sealed so that when the drum or bin is emptied there is no residual asbestos contamination.

Where possible, the drums or bins should be placed in the asbestos work area before work on ACM begins and should remain there until the clearance inspection has been completed. At the completion of the maintenance or service work the drums or bins should have their rims sealed and their outer surfaces wet wiped and inspected as part of the clearance procedure before they are removed from the asbestos work area.

If it is not possible to locate the drums or bins inside the asbestos work area, they should be located as close to the work area as possible. Drums or bins should not be moved manually once they have been filled. Trolleys or drum lifters should be used. Bins and hoppers, used to contain the bagged asbestos waste, need to be kept in an area where they are unaffected by weather conditions (e.g. filling with rain water).

Waste skips or Storage Containers: - if it is not feasible to use asbestos waste bags, drums or bins, because of the volume or size of the asbestos wastes, a well-maintained waste skip, vehicle tray or similar container may be used.

The ACM must be sealed in double-lined, heavy-duty plastic sheeting or double bagged



before they are placed in the skip. However, non-friable asbestos waste may be placed directly into a skip or vehicle tray that has been double lined with heavy-duty plastic sheeting (200µm minimum thickness), provided it is kept damp to minimize the generation of airborne asbestos fibres.

Once the skip is full, its contents are to be completely sealed with the plastic sheeting.

If a skip or container is to be used for storing the asbestos waste its contents must be able to be secured (e.g. using a lockable lid) and placarding provided on the exterior of the container identifying the contents.

9.2 Off-site Waste Disposal

ACM is both a Regulated and Trackable Waste under the Environmental Protection (waste management) Regulation 2000 (Schedules 1 & 7). Waste tracking documentation must be completed with appropriate copies being retained for Ozmik's records and forwarded to the Environmental Protection Agency.

Transport and final disposal of asbestos waste material shall be carried out by a competent person who carries certification as a transporter of hazardous materials in asbestos waste and in a manner that will prevent the liberation of asbestos dust to the atmosphere.

All asbestos waste material shall be buried at an approved landfill site and in a manner approved by the local and state authorities. Prior to payment of invoices Ozmik must receive copies of waste disposal receipts, as provided by the approved landfills.

All details of offsite disposal are to be included in the asbestos removal control plan.

No building materials are to be re-used or recycled unless they have undergone full successful decontamination. If this can't be achieved then the building materials are to be treated as asbestos waste and disposed of accordingly.

All waste disposals shall be recorded (date, quantity, disposal contract etc) in an appropriate register (e.g. within the sites waste management plans for disposal of regulated wastes).

Where any buildings or essential plant are disposed of (offered for sale or lease, dismantled or demolished) and contain asbestos materials or products, the new owner/buyer is to be given a copy of the asbestos report and register relevant to the building or item of plant.

10. Project Supervision

During any large asbestos removal jobs or the removal of any high-risk ACM, the Site Asbestos Officer is to maintain a presence at the removal site, and liaise with the appointed asbestos removal contractor, to ensure that the removal process runs according to both the Asbestos Removal Control Plan.

11. Clearance Inspections

Clearance to re-occupy an asbestos work area is determined by a thorough clearance



inspection conducted by a competent person. All of the barriers, warning barricade tape and warning signs are to remain in place until the clearance certificate to re-occupy has been granted.

A clearance certificate is to be provided to Ozmik by the asbestos removal contractor at the completion of the work and monitoring.

The need for clearance monitoring will be assessed as part of asbestos removal control plan and for undertaking any maintenance work involving ACM. It will be undertaken by a competent person, independent of the person conducting the asbestos work, after cleaning has been completed and the area dried.

Air samples are to be taken in the asbestos work area. For jobs involving an enclosed area, this is to be done within the enclosed area, following the completion of the work but prior to the removal of the enclosure and again after the removal of the enclosure.

The removal, cleaning and clearance work will not be considered completed until an airborne fibre level of less than 0.01 fibres/mL has been achieved, as determined by the clearance monitoring.

Settled Dust Sampling

This sampling only provides an indication of cleanliness following disturbances of ACM and should not be used as an indicator of risk to health. Any settled dust sampling criteria are to be developed by discussion with the Site Asbestos Officer and a competent person undertaking a visual inspection of the area.

12. Emergency Response Procedures

12.1 Evacuation Event

An emergency associated with the potential for exposure to airborne asbestos fibers within a building or across the power station site may necessitate the need to evacuate. Site procedures for evacuation are to be conveyed to contractors and employees during the site induction. The risks associated with any asbestos removal work should be assessed and include contingencies in the case of an emergency.

Decontamination procedures can be temporarily waived in the event of an emergency requiring evacuation. This is to be based on an informal risk assessment conducted at the time.

Persons involved in asbestos removal must evacuate to the evacuation assembly point but remain downwind to ensure any fibres remaining on clothes, as a result of not decontaminating completely, do not enter the breathing space of others.

Upon arrival at the evacuation point, emergency wardens and health and safety personnel are to be notified of the status of the asbestos removal work and the assessed level of risk associated, as well as the assessed level of risk associated with asbestos removalist not undergoing the complete decontamination process.

Events likely to require evacuation during asbestos removal work include but are not limited to:

- Fire evacuation



- Chemical spill and contamination
- Gas leak/contaminated atmosphere

13. Awareness Training Asbestos Removalists

Persons carrying out asbestos removal work are to be trained so they can carry out this work safely and without risk to their own health or the health of others. This training must reflect the specific type of asbestos work to be undertaken.

Asbestos Removalists are to keep written records of all training provided to their asbestos removal workers and these records should be requested before awarding the contract for any site removal work.

14. Asbestos Exposure Register

Group 8 will maintain an asbestos exposure register that records persons that have been exposed, have potentially been exposed or have worked in close proximity to asbestos materials.

Workers are to complete Form S0268 Asbestos Exposure Questionnaire and give a copy to the Site Asbestos Officer who will update the site register accordingly. A copy of the Form S0268 is to be kept by the worker and their employer.

15. Health Surveillance

Health surveillance is an important part of the monitoring of exposure to hazardous substances, including asbestos, to ensure the health and safety of people in workplaces.

One of its main purposes is to ensure that control measures are effective and provide an opportunity to reinforce specific preventative measure and safe work practices. Group 8 will ensure any asbestos workers are provided with medical documentation associated with an annual medical health surveillance. The assessment will be conducted in accordance with the Guidelines for Health Surveillance (NOHSC: 7039:1995) by registered medical practitioners. Medical records are to be held with the workers personnel file and be protected by the relevant procedures for Privacy and Confidentiality.

16. Reference Documentation

- National Occupational Health and Safety Commission "Code of Practice for the Management and Control of Asbestos in Workplaces (NOHSC: 2018 (2005)).
- National Occupational Health and Safety Commission "Code of Practice for the Safe Removal of Asbestos (NOHSC: 2002 (2005)).
- Australian Standard AS 1319 Safety Signs for the Occupational Environment.
- Australian Standard AS 4260 High Efficiency Particulate Air (HEPA) Filters – Classification, Construction and Performance.
- Australian Standard AS 1716 Respiratory Protective Devices.
- Workplace Health and Safety Act and Regulations – Queensland

Appendix 1: Asbestos Register

Location	Type of Asbestos	Removed prior to Demolition
Eaves sheeting	Bonded	Yes
Roof tile bedding strips	Bonded	Yes
Laundry and back door ceiling	Bonded	Yes
Kitchen Floor	Bonded	Yes
Dining Room Floor	Bonded	Yes
Bedroom One Floor	Bonded	Yes
Garage Walls	Bonded	Yes
Sub Floor packing	Bonded	Yes
Vulcan Heater	Friable	Yes
Cooker	Friable	Yes
Mr Fluffy	Friable	Secured by PVA



Appendix 2: Methodology of Site Activity

Site Description

The dwelling known as 12 Kintore Crescent, Yarralumla in the Australian Capital Territory. The house is on the register for having Mr Fluffy installed in the ceiling cavity and removed in the removal campaign in the 1990's. The dwelling was constructed in circa 1940's and no renovations are apparent within or around the dwelling. The construction of the dwelling is double brick cavity with a horse-hair ceiling in the majority of the house, with raised floor on stumps/ piers. No pipe lagging is apparent in the dwelling. An asbestos register has been established by the Class A Assessor (Asbestos).

Site Authority

Entered into formal contract with Ozmik Construction Pty Ltd (Principal Contractor).

Establishment of Site

A site fence is to be erected around the property to stop unauthorized access to the site and building.

- Electricity is to be disconnected from the house, by a qualified person and any other buildings i.e. stand-alone garage etc;
 - Install a temporary electricity pole for electricity supply during asbestos removal, demolition and future building construction;
 - Ensure temporary power pole is placed in a position where all phases of work will ensure it will not be damaged;
- Water to be disconnected from the house and install a temporary tap beside and after the water meter, for use by the Class A Removalist and other phases of works;
- Ensure correct signage is prominently displayed on the temporary fencing;

Site Assessment

Group 8's Class A Assessor (Asbestos) will conduct a formal survey to identify all asbestos, that can be removed prior to demolition. This survey will include the whole property, including buildings not attached to the dwelling. Sampling and NATA laboratory analysis may be required to formally identify suspect samples within any structure on the property.

Pre Asbestos Removal

In consultation between the Class A Assessor and Removalist, derive a schematic that will ensure that the safest methodology is used – minimizing dust and possible fibre release.

Neighbour Consultation

Group 8's Class A Assessor will make contact with all neighbours, immediately adjoining the property. Neighbours (individually) will be asked to allow the Class A Assessor an opportunity to explain the methodology that will be used to safely demolish 12 Kintore Crescent, Yarralumla. The Class A Assessor will collect all names of neighbours, email addresses, mobile phone numbers and any other details deemed necessary to maintain good communications. All air monitoring results will be portrayed to all neighbours and an outline of KPI's will be advised to all neighbours.

Each adjoining residence will be interviewed and explained the methodology. The names and addresses of all persons living in the residences will be diarized and noted as part of the sites records.



Asbestos Removal

The following will form a basic sequence which will minimize any potential fibre release. All personnel entering the premises will be properly trained and wearing appropriate PPE.

Activities whilst ceiling is in-place and a negative air pressure scenario can be established:

- Secure and tape all windows, attempting to make air tight seal;
- Tape and seal all passive air vents and chimney outlets;
- Using expanding foam, seal the internal wall holes created by unknown persons;
- Install negative air machine to create a negative air pressure within the dwelling;
- Using differential pressure meter, ensure that the internal air pressure in the house is less than outside barometric pressure;
- Remove all identified bonded asbestos such as:
 - Vinyl kitchen flooring;
 - Carpet;
 - Remove and wrap cooker from kitchen;
 - Remove and wrap heater in lounge room; and
- After all asbestos contaminated material is wrapped, remove from dwelling and dispose in a double lined 15m³ waste bin for disposal at WBRMC facility.

Using a negative air pressure but not maintaining the same differential pressure ratio complete the following:

- Drop ceilings and double wrap in manageable sizes;
- Bundle and seal all insulation found, including insulation batts;
- Sweep and vacuum all floors, minimizing dust disturbance;
- Vacuum all roof trusses, top of internal walls and reverse side of in-situ eave sheets and roof tiles;
- The internal walls of the house are capped brick cavity walls where Mr Fluffy fibres cannot penetrate;
- With ceilings removed, spray PVA (with pigment) in roof cavity, internal walls and floor of house (liberally);

From the outside of the building using safe work methods for working at heights;

- Remove all eaves sheets and tiles verge and lower three rows of roof tiles;
- The residence has all internal double brick cavity wall capped, (see Figure 1 in Appendix 3)
- Mix a solution of liquid expanding foam, adjust the activator ingredient to delay the chemical reaction of the foam to ensure it works as planned.
- Era Polymers are the suppliers of the GP330 expanding foam that will be used on the project;
- Ecofoam GP30 is a general-purpose rigid polyurethane foam product for pour in place applications. The formulation contains fire-retardants and has a free-rise density of 3 kg/m³. This product contains no CFC's or HCFC's and is environmentally friendly foam that has no ozone depleting potential.
- As the top of all internal walls have timber plates supporting the roof trusses it is not possible to get foam or any other sealing agent into the cavity. Also the risk of fibres entering the wall cavities is slim for the same reason, because of the top plates.



Timber of the roof trusses blocks off every the cavity between the brick walls. This has also prevents easy access for any Amosite Asbestos fibres to enter this space.



Both end gables of the dwelling have large holes where fibres could have settled. Therefore this cavity will be filled with foam to secure any random fibres remaining in wall cavity.

- The product can be manually drill mixed (@ a minimum speed 200 rpm) or processed through a polyurethane foam dispensing equipment. This product has been designed for use in a wide range of insulation, buoyancy, or cavity filling applications.

Preparation of Site for Demolition

- Spray liberally all floors, walls, roof trusses and sub floor area;



- Ensure all vegetation is cleared one metre from footprint of dwelling;
- Ensure adequate water pressure or use manifold and multiple hoses to ensure adequate dust suppression for demolition;
- Advise neighbours of date and time of demolition;
 - See attached explanatory advise (fact sheet) which will be signed by neighbours;
- Select air monitoring position, check prevailing wind direction;

Traffic Management

During Non-Demolition Phase

- During asbestos removal of internal materials, exterior of garage and eaves sheeting no disturbance will be created for local traffic;
- Asbestos removalist work vehicle with supplies required for the tasks will be parked within the fenced area;
- Employees of the removalist who just use their vehicle to travel to work will park across the road on grass verge – causing no disturbance to local traffic.
- All vehicles on site will obey all speed limits and controls implemented at the Tool Box Talk.

During Demolition Phase

Traffic management has been out sourced to Road and Traffic Management Technologies – Canberra (RTMT).

- A qualified person with stop and slow sign will be employed during the loading and unloading of heavy equipment;
- During demolition there will be two licensed and approved trucks with demolition trailers to move the demolished house to the disposal site;
- During demolition the loading of the trailers will be completed within the fenced area and within three to five metres of the house footprint;
- Estimated truck movements are planned to be one every 45 minutes;
- The hay bales and 100mm of surrounding soil, at the end of the demolition will be disposed of, as contaminated waste with the 100mm of soil from the footprint of the building

Environmental

- On the down gradient a hay bale trench will be installed to capture any run-off from the hoses used in dust suppression phase;
- As stated throughout the ARCP high winds or increasing winds will be monitored by the Class A Assessor;
- Only authorized people wearing appropriate PPE will be allowed to enter the zone;
- It is the project design to complete the demolition in the single day, if some external factors cause the project to extend then the demolished dwelling will be dampened down and heavy plastic tarps placed over the site;
- The route from 12 Kintore Street, Yarralumla to West Belconnen Resource Management Centre is provided to drivers 2 days in advance. See Appendix 4; and
- Following the removal of the dwelling, soil will be sampled as per Western Australian Guidelines. If the soil sampling fails then another 100mm of soil will be removed under ARCP parameters and retested prior to Clearance Certification.

Demolition Phase

- A 200mm deep by 600mm wide trench will be created on the down gradient site and lined with hay bales to catch all run off water from the hoses used as dust suppression;
- Demolition will only occur if the predicted wind speed is less than 40kph;
- Rain will prevent the demolition of the house and truck movements on the site;
- It is planned that the demolition time and date will be approved by authorities, after KPI's with asbestos removal been achieved;
- The physical demolition is planned for Tuesday 14 October 2014 commencing at 7am and it expected to be completed by C.O.B Wednesday 15 October 2014.
- Each new day, place five air monitors, 1 metre in from perimeter in different areas selected by Class A Assessor;
- Air monitoring will run at two litre per minute and start at 7am - 4:30pm each day;
- All truck drivers will remain insitu with the cabins of their trucks, the cabins of the trucks will be sealed from the outside environment. i.e. the windows wound up and air condition set to recirculate;
- Excavator operator will remain insitu at all times, the cabin of the excavator will be sealed from the outside environment. i.e. the windows wound up and air condition set to recirculate;
- An air monitor will be placed in the excavator cabin to provide confidence of the methodology;
- If any mechanical fault arises, i.e. a stuck tarp or unlatched tailgate, then the labourer(s) on the ground wearing suitable PPE will attend to the problem.
- Communication will be via UHF hand held radio's;
- If any problem is too large then the truck will be de-contaminated and removed from site;
- Dust suppression via 5 hoses will be implemented whilst the demolition occurs and the filling of the trucks;
- The majority of air monitors should be downwind of prevailing wind direction for each day.

Clearance

- Following air monitoring, cowl analysed by NATA laboratory;
- Using Western Australian Guidelines conduct soil sampling in a grid format as per guidelines.
- If sampling fails remove another 50mm of soil from the site and treat as contaminated waste;
- Following successful soil sampling issue a Clearance Certificate for the block and section number.

Disposal:

All asbestos waste will be disposed of at West Belconnen Resource Management Centre, Parkwood ACT. Application has for disposal with fee concession has been made to ACT NOWaste via Nicky Foote.



Emergencies:

All incidents are to be reported ASAP.

Ambulance – 000

Fire Brigade - 000

Police – 000

Name: Garry Miller

Phone Number: 0448 588 446



Appendix 3: ECOFOAM GP330 POLYOL

ECOFOAM GP330 POLYOL

Data Sheet.



ECOFOAM GP330 POLYOL

Erapol Co. GHS Safety Data Sheet (REVIEW)
Issue Date: 2-Apr-2013
XC226SP

Hazard Alert Code: MODERATE

ERAPOL CO. 9-50830
Version No:1
Page 1 of 6

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

ECOFOAM GP330 POLYOL

PRODUCT USE

Used according to manufacturer's directions.
Polyurethane foam polyol blend

SUPPLIER

Company: Era Polymers Pty Ltd
Address:
25- 27 Green Street, Banksmeadow, NSW 2019, Australia

Telephone: +61 2 9666 3788
Emergency Tel: **1800 039 008 (AUS)**
Emergency Tel: **+80024362255 (INTL)**
Fax: +61 2 9666 4805
Email: erapol@erapol.com.au
Website: ~

Section 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Not hazardous

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
1, 1, 1, 3, 3- pentafluorobutane (Below cutoff)	406-58-6	<10
trans- acetylene dichloride (Below cutoff)	156-60-5	<2.5
Polyol blend non hazardous		>60

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

- If this product comes in contact with eyes:
 - Wash out immediately with water.
 - If irritation continues, seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

continued...

ECOFOAM GP330 POLYOL

Erapol Co. GHS Safety Data Sheet (REVIEW)
Issue Date: 2-Apr-2013
XC226SP

Hazard Alert Code: MODERATE

ERAPOL CO. 9-50830

Version No:1

Page 2 of 6

Section 4 - FIRST AID MEASURES

SKIN

- If skin or hair contact occurs:
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

FIRE/EXPLOSION HAZARD

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit irritating/ toxic fumes.

FIRE INCOMPATIBILITY

- None known.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

MAJOR SPILLS

Moderate hazard.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

continued...

ECOFOAM GP330 POLYOL

Erapol Co. GHS Safety Data Sheet (REVIEW)

Issue Date: 2-Apr-2013

XC226SP

Hazard Alert Code: MODERATE

ERAPOL CO. 9-50830

Version No:1

Page 3 of 6

Section 7 - HANDLING AND STORAGE

SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

Avoid contamination of water, foodstuffs, feed or seed.
None known.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- 1, 1, 1, 3, 3- pentafluorobutane:
- trans- acetylene dichloride:

CAS:406- 58- 6

CAS:156- 60- 5

MATERIAL DATA

ECOFOAM GP330 POLYOL:

TRANS-ACETYLENE DICHLORIDE:

for acetylene dichloride:

MAK value: 200 ppm, 800 mg/m³

Odour Threshold Value: 0.085 ppm

IDLH Level: 4000 ppm

Based on the finding that the no-effect level in animals on prolonged inhalation exposure is at least 1000 ppm, the TLV-TWA is thought to provide a margin of safety in the occupational setting. Because of histopathological organ changes (fatty cell degeneration of the hepatic lobules and Kupffer cells) observed in mature female rats and mice after a single or repeated exposure at 200 ppm the limit is under review.

1,1,1,3,3-PENTAFLUOROBUTANE:

for 1,1,1,3,3-pentafluoropropane (HFC-245fa)

The American Industrial Hygiene Association has recommended a workplace environmental exposure level guide (WEEL) of 300 ppm (8-hour time-weighted average) (AIHA, 1996). This was based on a 13-week inhalation toxicity study in rats, where myocarditis was seen at 10,000 ppm while 2,000 ppm represented either a NOAEL or possibly a threshold.

No exposure limits set by NOHSC or ACGIH.

TRANS-ACETYLENE DICHLORIDE:

MAK values, and categories and groups are those recommended within the Federal Republic of Germany.

PERSONAL PROTECTION

RESPIRATOR

- Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

continued...

ECOFOAM GP330 POLYOL

Erapol Co. GHS Safety Data Sheet (REVIEW)
Issue Date: 2-Apr-2013
XC226SP

Hazard Alert Code: MODERATE

ERAPOL CO. 9-50830
Version No:1
Page 4 of 6

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDS/FEET

- Wear general protective gloves, eg. light weight rubber gloves.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

OTHER

- No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

ENGINEERING CONTROLS

- Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Light/Clear/Yellow Colour

PHYSICAL PROPERTIES

Liquid.

State	Liquid	Molecular Weight	Not Available
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Not Available
Flash Point (°C)	>65	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Available
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.15
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Product is considered stable and hazardous polymerisation will not occur.
- For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

Health hazard summary table:

Acute toxicity	Not applicable
Skin corrosion/irritation	Not applicable
Serious eye damage/irritation	Not applicable
Respiratory or skin sensitization	Not applicable
Germ cell mutagenicity	Not applicable

continued...

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Page 5 of 6

Section 11 - TOXICOLOGICAL INFORMATION

Carcinogenicity	Not applicable
Reproductive toxicity	Not applicable
STOT- single exposure	Not applicable
STOT- repeated exposure	Not applicable
Aspiration hazard	Not applicable

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE

■ Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN

■ The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

■ The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

TOXICITY AND IRRITATION

No data for this material.

Section 12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
1, 1, 1, 3, 3- pentafluorobutane	No Data Available	No Data Available	No Data Available	No Data Available
trans- acetylene dichloride	HIGH	No Data Available	LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

■ Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction.

continued...

ECOFOAM GP330 POLYOL

Erapol Co. GHS Safety Data Sheet (REVIEW)

Issue Date: 2-Apr-2013

XC226SP

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ERAPOL CO. 9-50830

Version No:1

Page 6 of 6

Section 13 - DISPOSAL CONSIDERATIONS

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:

None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, IATA, IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE None

REGULATIONS

Regulations for ingredients

trans-acetylene dichloride (CAS: 156-60-5) is found on the following regulatory lists;

"FisherTransport Information", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – Norway", "Sigma-AldrichTransport Information", "WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water"

No data for ECOFOAM GP330 POLYOL (CW: 9-50830)

No data for 1, 1, 1, 3, 3-pentafluorobutane (CAS: , 406-58-6)

Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources using available literature references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

This document is copyright

Issue Date: 2-Apr-2013

Print Date: 26-Nov-2013



Safe Work Method Statement

Company Name: Group 8 Environmental Pty Ltd

Prepared by: Brendan Miller

ABN: 19 601 494 964

Approved by: Garry Miller

Contact Details: 0448 588 446

Asbestos License: ACT 2012486

Period of work at this site: 2 /10 / 2014

Description of Activity: Removal of bonded asbestos as per Asbestos Register	Work Site:
This SWMS will be signed off by workers as part of their tool box talk.	



All workers listed below have read and understood this Safe Work Method statement and agreed to abide by the controls listed within it.

Name	Position Qualifications	Signatures
Gary Reid License No: 2006571 (Supervisor)	Bonded & Friable Asbestos Removal General Induction Senior First Aid Certificate Confined Space Ticket WP Boom Type Elevating Work Platform	
Douglas McCallum License No: 2006314	Construction and Demolition Licensed waste haulage trucks (TBA)	
Garry Miller Class A Assessor 2012486	Environmental Engineer (Masters) Waste Management Post Graduate Degree	



All workers listed below have read and understood this Safe Work Method statement and agreed to abide by the controls listed within it.

Training Required to Complete Activity

OH&S Induction (General, Work Activity & Site Specific)
Asbestos Awareness
Manual Handling Awareness & Application
Training in operating plant & equipment used

Code of Practice, Legislation, Standards which apply to this Activity

- Safe Removal of Asbestos 2nd Edition [NOHSC: 2002 (2005)];
- Code of Practice for the Management & Control of Asbestos in Workplaces [NOHSC2:018(2005)].
- Code of Practice for the Practice for Safe Removal of Asbestos 2nd Edition [NOHSC 2002(2005)1].
- Asbestos legislation Amendment Act 2006 (AS2006-16), ACT Parliamentary Counsel.
- Guidance Notes on the Membrane Filter Method for Estimating Airborne Asbestos fibres 2nd edition [NOHSC: 3003(2005)].
- Dangerous Substances ACT 2004 (A2004-7), Republications No23, 25 October 2007, ACT Parliamentary Counsel.
- Dangerous Substances (General) regulation 2004 (SL2004-56), Republication No9, December 2007, ACT Parliamentary Counsel.
- Work Safe ACT 2008.
- Work Safety Regulation 2009. ACT Code of Practice for Manual handling.



All workers listed below have read and understood this Safe Work Method statement and agreed to abide by the controls listed within it.

EPA Requirement

Collection and Storage

The waste must be covered to prevent the emission of any dust.

The waste must be collected and stored in impermeable bags, which must be made of heavy-duty, low-density polyethylene at least 0.2mm thick, at least 1.2 meters high; Be sealed by duct tape – contain no more than 25kg of waste; Be marked with “ASBESTOS DO NOT INHALE DUST” in letters that are no less than 40mm in size and with Australia AS 1319 – Safety signs for Occupational Environment.

If the waste is stored in sealed bags:

The bag must be kept in leak-proof container used only for purpose of storing asbestos waste, the container must be marked with “DANGER – ASBESTOS WASTE ONLY – AVOID CREATING DUST” in letters that are no less than 50mm in size and with Australian AS 1319 – Safety signs of Occupational Environment. The container must have a close-fitting cover to prevent an spillage of disposal of the waste, the waste must be stored in a secure area, which prevent entry by unauthorised persons and minimise the risk of environmental harm and, the waste must, if practicable, be stored separately from other types of waste.

Transport

The waste must be transported in covered leak-proof EPU licensed vehicle for waste over 200kg . The waste must be disposed of only at a landfill site that is licensed to receive it.

A route plan and load log sheet will be kept by each driver;

Disposal

The waste must be disposed of only by burial. The waste must be unloaded at the landfill without creating dust and approved by ACT NOWaste.

Class 1 (High Risk)

The hazard has the potential to cause severe & lasting damage, death or disablement, to workers, the environment, or the community and chance of occurring without safeguards

Class 2 (Medium Risk)

The hazard has the potential to cause severe damage to workers, the environment, or the community, and has a medium chance of occurring without safeguards.

Class 3 (Low Risk)

The hazard has the potential to damage the workers, the environment, or the community, and has a medium chance of occurring without safeguards.

SWMS Bonded

Working Environment and Action	Possible Hazards	Risk Rank	Job Steps and Safety Controls (Tick appropriate steps specific to job)	Mod Rank	
Workers to enter the site	Potential exposure to asbestos and various construction related hazard	1	☐ All the workers on site to have undergone OH&S induction procedure and site induction procedure. (Tool box talk)	3	Comments
Isolation of services	Coming into contact with electrical cables – electrocution. Gas and water pipes discharge into atmosphere	3	☐ All the workers on site to hold appropriate and valid OH&S induction card for construction industry. ☐ Identify where power comes into work area and isolate if required. ☐ Identify where gas and water lines are and put up protective barriers		
Evacuation point &	Uncontrolled contamination of site	2	☐ Evacuation and assembly point to be established at Tool Box Talk.		

Decontamination Point	Electrical shock		☐ Ensure appropriate decontamination equipment is placed on site in accordance with the type of job ☐ In the event of fire a separate nominated point will be established for decontamination of disposable overalls, PVA Spray ☐ All power tools and leads to have current tags		
Tools and Equipment					
Provide general work facilities for all workers	Lack of amenities for workers	2	☐ All the workers in the area are to wear appropriate PPE. All workers removing asbestos sheets to be wearing full disposable coveralls, safety goggles, gloves, safety boots and full or half respirator with P2 or P3 dust filter cartridge in place. ☐ Staff provided with drinking water. ☐ Ensure required amenities are provided (toilets, wash facilities, shed for meal breaks) and are all set up and with power and water connected where required. Ensure emergency plans and first aid facilities are in place and first aid kit has been checked every 6 months in accordance with the Australian Standards. ☐ Only sheeting is to be removed. Power to site supplied via generators site power has been cut or de-energised to a safe level	3	Comments

Working in and around the work area	Trips over material	3	☐ Examine pathways and access ways before moving material around the site and remove any obstacles or debris before using equipment. Keep pathways clear of trip hazards	3	Comments
Working outdoors	UV Radiation – Skin Cancers	1	☐ Avoid working outdoors during the heat of day where possible ☐ Where appropriate protective equipment and clothing such as wide brimmed hats, long sleeve tops and sunglasses which conform to Australian Standards 1337. ☐ All workers to apply SPF 30+ sunscreen at the beginning of the day and reapply every 2 hours when they are working outdoors.		Comments

Lifting and carrying material or heavy loads	Manual handling – Potential sprains, strains, injuries to back, shoulders, muscles, joints etc.	2	☐ Use wheelbarrows or trolleys to carry materials and tools share the load between two or more workers to reduce the number of sheets or other material that is carried ☐ Only carry what is comfortable weight and do not overload yourself ☐ Use correct lifting techniques such as lifting from your knees rather than your back.	3	Comments
--	---	---	---	---	----------

Working Environment and Action	Possible Hazards	Risk Rank	Job Steps and Safety Controls (Tick appropriate steps specific to job)	Mod Rank	
Removal of bonded asbestos sheets/sheeting	Particles of asbestos being dislodged, asbestos particles to the exterior atmosphere where workers and	1	☐ If the sheeting has become deteriorated or friable with age or wear, it should be sprayed with PVA or sealant before removal ☐ Workers to avoid spread of asbestos when removing. The sheets should be lowered to the ground and not dropped. Cutters used to remove	3	Comments

	members of the public may be affected		the heads of fasteners (removed screws and bolts to be disposed as asbestos waste) ☐ Remove asbestos using hand tools causing as little damage as possible ☐ Spray area with PVA ☐ All workers in the area are to wear all appropriate PPE. All workers removing asbestos to use the decontamination facilities on site and remove and/or replace PPE at this stage (All PPE to be removed of as asbestos waste)		
Remove asbestos from site	Asbestos particles to the exterior atmosphere where workers and members of the public may be affected	3	☐ Select and area where the asbestos sheeting can be placed so it is not in the way of work being carried out and will not be damaged. ☐ Stack the asbestos on doubled polyethylene sheeting wrapped and sealed into appropriate bundled for disposal ☐ Broken sheeting and associated waste (including contaminated clothing) should be place directly into bins that have been lined with polyethylene sheeting or placed in heavy duty, doubled 200µm thick printed with "ASBESTOS DO NOT INHAKE DUST" plastic bags no larger than 120mm by 900mm.	3	Comments

			☐ Bags and sheeting will be sealed for removal. All tools and equipment used in the removal area will be vacuumed with a HEPA filter vacuum prior to leaving the site, if it is not possible, bag and seal all tools that have been used		
			☐ Spray with PVA to encapsulate any airborne fibres.		
			☐ Asbestos waste will be removed to an approved site for disposal.		
Bringing materials on site in a vehicle and transport to the appropriate landfill	Collisions with others workers or pedestrians, contamination	3	☐ Ensure speeds do not exceed allocated limits on site or safe speed around site. (10km/hr generally)	3	Comments
			☐ Drive only in designated access routes. Make sure there are barriers and safe access routes for pedestrian access point.		
			☐ Drivers to ensure that they are not using mobile phones or engaged in any other distraction whilst driving.		
			☐ Make sure all bags are sealed.		

Additional Info

Working Environment and Action	Possible Hazards	Risk Rank	Job Steps and Safety Controls (Tick appropriate steps specific to job)	Mod Rank	
				3	Comments
				3	Comments
				3	Comments

Date	Hazard	Risk Rank	Control	Mod Rank



Tool Box Talk Record

Project:

Job No:

Work Area:

Supervisor:

Subcontractor:

Date:

Time:

Subject matter (pre-plan)

1.0 Work Plan	
2.0 Risks	
3.0 Controls	
4.0 Safety Items Discussed	
5.0 Comments from the floor	
6.0 New business	

Attendees

Print Name	Signature	Print Name	Signature



Attendance Verified:**Name****Signature****Date:****Sign-off and Reviewed by:****Supervisor Signature:****Date:****Meeting Minutes/Actions**

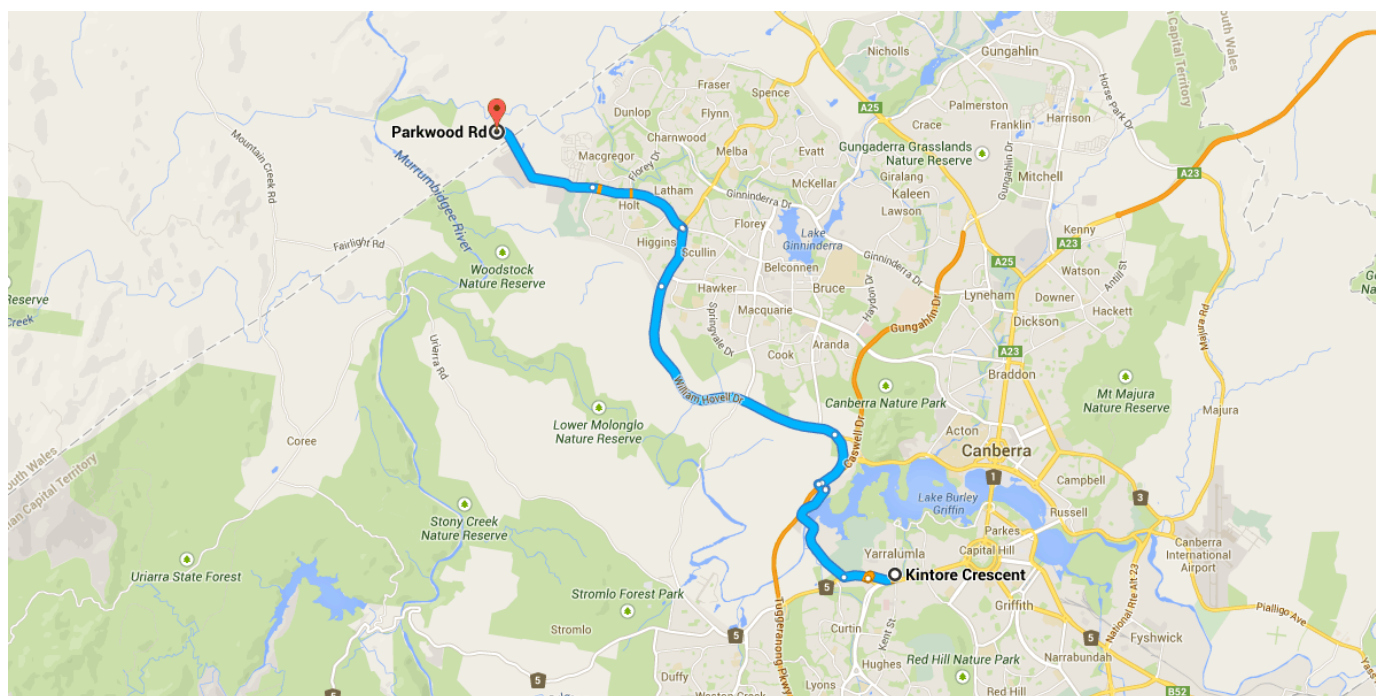
Item	Minutes	Action	
		By Whom	By When





Appendix 4 Truck Route Map

Directions from Kintore Crescent to Parkwood Rd



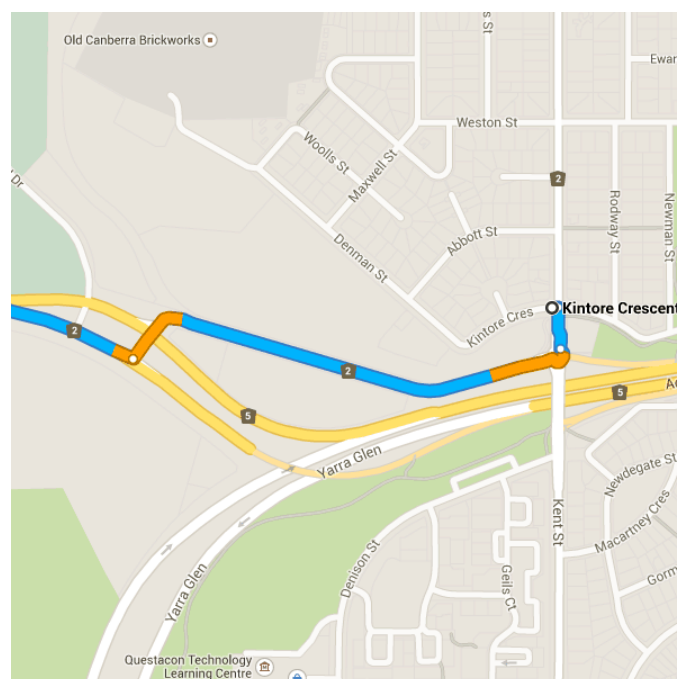
- Kintore Crescent

Yarralumla ACT 2600

Follow **Dudley St** to **Cotter Rd**

900 m / 2 min

1. Head **east** on **Kintore Crescent** towards **Novar St**
11 m
2. Take the 1st **right** onto **Novar St**
73 m
3. At the roundabout, take the **3rd** exit onto **Dudley St**
850 m



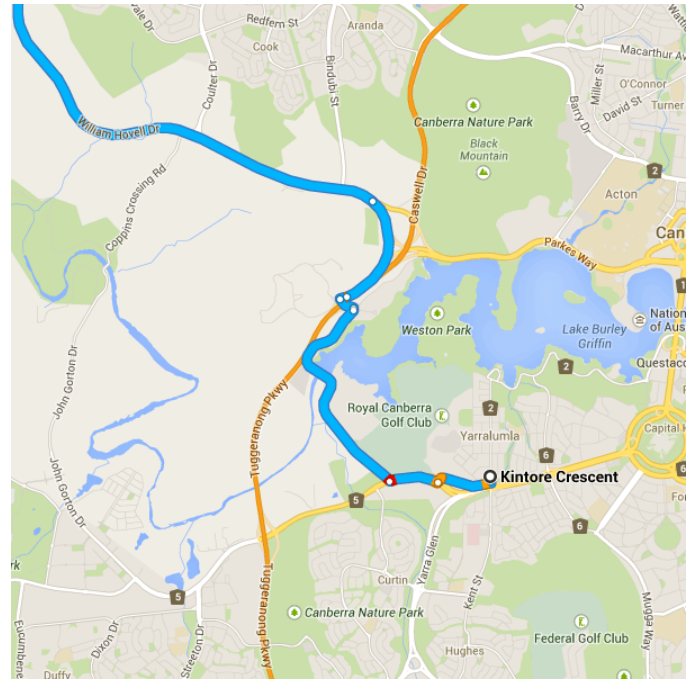
Dudley St turns **right** and becomes **Cotter Rd**

700 m / 42 s

Get on **William Hovell Dr** in North West
Rural| Canberra

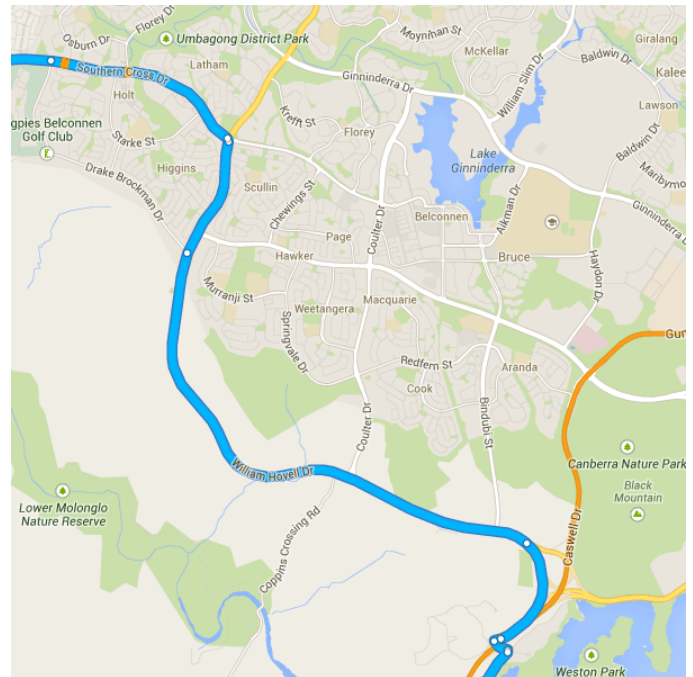
5.3 km / 5 min

5. Turn **right** onto **Lady Denman Dr**
3.2 km
6. Keep **left** to continue toward **Forest Dr**
38 m
7. Turn **left** onto **Forest Dr**
240 m
8. Turn **right** onto the **Tuggeranong Parkway** ramp to **Belconnen/Gungahlin**
97 m
9. Keep **left** to continue toward **William Hovell Dr**
1.7 km

Continue on **William Hovell Dr** to Higgins

9.2 km / 7 min

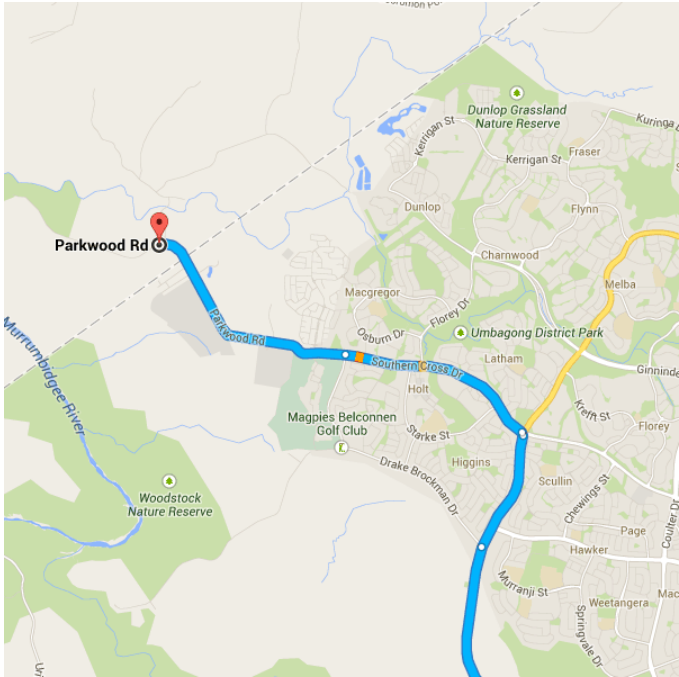
10. Continue onto **William Hovell Dr**
7.5 km
11. At the roundabout, continue straight onto **Kingsford Smith Dr**
 Go through 1 roundabout
1.7 km

Follow **Southern Cross Dr** to **Parkwood Rd** in Wallaroo

6.2 km / 7 min

12. Slight **left** towards **Southern Cross Dr** (signs for **SOUTHERN CROSS DRIVE**)
59 m
13. Slight **left** onto **Southern Cross Dr**
2.8 km
14. Continue onto **Parkwood Rd**
 Go through 1 roundabout
 Entering New South Wales

3.4 km



📍 Parkwood Rd

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2014 Google



Group 8 Environmental Pty Ltd
ABN 19 601 494 964
PO Box 632 Dickson ACT 2602
Tel: (02) 6236 9336
Mobile: 0448 588 446
Email: group8canberra@gmail.com

Certification of Clearance

Property Identifier:

23 October 2014

Location: 12 Kintore Street, Yarralumla ACT
Block 8 Section 92 Yarralumla

At the request of the Ozmik Constructions Pty Ltd, Group 8 Environmental Pty Ltd, following the demolition Group 8 carried out asbestos visual clearance inspection and air monitoring (Control Air Monitoring) on the demolition site. A Clearance Certificate, following the engagement of a licensed Class A Removalist for works at the above address has been issued.

ACT Class A Assessor License No: 2012486

Name of License Holder and Supervisor: Garry Miller

Characteristic: Bonded – Friable Asbestos

Location(s): Demolition of Dwelling

All work was performed in compliance with ACT asbestos removal regulations and Codes of Practice. The most recent edition of relevant regulations, standards, documents, or codes in effect including:

- National Occupational Health and Safety Commission,
- Code of Practice for the Safe Removal of Asbestos [NOHSC:2002 (2005)]
- WorkSafe ACT Requirements
- Construction Occupations (Licensing) Act 2004
- Dangerous Substances Act A2004-7
- Dangerous Substances (General) Regulations 2004
- Dangerous Substances (Asbestos advice) Notice 2006 (No 1)
- Environment Protection Act 1997 (Information Sheet No. 5)
- Building Regulation 2004
- Work Safety Act 2008, Work Safety Legislation Amendment Act 2009
- Occupational Health & Safety Regulation (Working at Heights)

Certified by



Garry Miller

Class A Assessor License No: 2012486

Appendix 1
Chain of Custody



Asbestos Air Monitoring Field Sheet

Group 8 Environmental Pty Ltd

ABN 19 601 494 964

PO Box 632 Dickson ACT 2602

Tel: 1800 002 989

Mobile: 0448 588 446

Email: group8canberra@gmail.com

NOHSC: 3003(2005)	
Report Number:	Date: 21 October 2014
Client:	Ozmik Constructions Pty Ltd
Site Address:	12 Kintore Street, Yarralumla ACT
Purpose of Test:	Control Air Monitoring
General Test Area:	Perimeter Fence
Rotameter ID:	ROT 6
Timer ID:	

Sample #	Pump #	S / P *	Location	Flow Start	Time On	Flow Stop	Time Off
A4444	72866	S	Porta Loo Near Truck Entrance	2.0	07:10	2.1	16:31
A4445	49677	S	Near Water Meter	2.0	07:12	2.0	16:24
A4446	71161	S	5 metre south of water meter	2.0	07:14	2.0	16:23
A4447	72496	S	Fence Cnr Novar and Kintore	2.0	07:15	2.1	16:29
A4448	74569	S	Kintore Pathway	2.0	07:17	2.0	16:28

Note: * Static (control) or Personal (exposure) sampling.

Additional Notes:

Sampled by: Garry Miller

Class A Assessor
License No: 2012486

QA by:

Signature:

Signature:

Date: 21 / 10 / 2014

Date:



Asbestos Air Monitoring Field Sheet

Group 8 Environmental Pty Ltd

ABN 19 601 494 964

PO Box 632 Dickson ACT 2602

Tel: 1800 002 989

Mobile: 0448 588 446

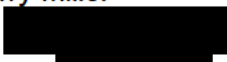
Email: group8canberra@gmail.com

NOHSC: 3003(2005)	
Report Number:	Date: 22 October 2014
Client:	Ozmik Constructions Pty Ltd
Site Address:	12 Kintore Street, Yarralumla ACT
Purpose of Test:	Control Air Monitoring
General Test Area:	Perimeter Fence
Rotameter ID:	ROT 6
Timer ID:	

Sample #	Pump #	S / P *	Location	Flow Start	Time On	Flow Stop	Time Off
A4463	49677	S	Porta Loo Near Truck Entrance	2.0	6:40	2.0	13:59
A4462	71661	S	Original Driveway	2.0	6:41	Failed	Failed
A4461	72496	S	Temporary Power Pole	2.0	6:43	2.1	13:52
A4464	72886	S	Fence Cnr Novar and Kintore	2.0	6:44	2.1	13:47
A4460	74569	S	North Boundary	2.0	6:46	2.0	13:55

Note: * Static (control) or Personal (exposure) sampling.

Additional Notes:

Sampled by: Garry Miller
Signature: 
Date: 22 / 10 / 2014

Class A Assessor
License No: 2012486

QA by:
Signature:
Date:

Appendix 2

Air Monitoring NATA Laboratory

Note:

Extract from:

Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment NOHSC 3008(1995) 3rd Edition

ASBESTOS

14.21 Asbestos is the generic name used for the fibrous form of a group of naturally occurring mineral silicates of the serpentine and amphibole series⁴⁶ including the fibrous serpentine mineral, chrysotile (white asbestos), and the amphiboles known in fibrous forms as actinolite, amosite (brown asbestos), anthophyllite, crocidolite (blue asbestos) and tremolite.

14.22 The average fibre concentration of the air breathed by a worker throughout a working shift, as calculated from measurements made in accordance with the National Commission's Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust⁴⁷ [NOHSC:3003(1988)], over a sampling period of not less than four hours, during which one or more samples may be taken, should not exceed the values in the following table.

Type of Asbestos	CAS No.	TWA Exposure Standard
Crocidolite (blue asbestos)	[12001-28-4]	0.1 fibres per mL of air
Amosite (brown asbestos)	[12172-73-5]	0.1 fibres per mL of air
Chrysotile (white asbestos)	[12001-29-5]	1.0 fibres per mL of air
Other forms	[1332-21-4]	0.1 fibres per mL of air

Any mixture of these, or where the composition is unknown 0.1 fibres per mL of air

Respirable Fibre Estimation Test Report

Report No.: 7000-4179 **Sampling Date:** 21 Oct 2014 **Report Issued:** 23 Oct 2014
Monitoring Location: 12 Kintore Street, Yarralumla
Client Name & Address: Group 8 Environmental Pty Ltd
Work in Progress: Control Air Monitoring
Asbestos Removalist: n/a

Test Specification(s) Employed: NOHSC: Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003 (2005)], & In-House Procedure No. 1

Sample No.	Sampling Location	Time		Av. Flowrate	No. of Fields Counted	No. of Fibres Counted	Airborne Fibre Conc. (fibres/mL)
		On	Off				
70004179-1	Portaloo upwind	-	-	-	100	1	-
70004179-2	Near water meter	-	-	-	100	2	-
70004129-3	5m south of water meter	-	-	-	100	0	-
70004179-4	Cnr Nova & Kintore	-	-	-	100	2	-
70004179-5	Kintore near footpath	-	-	-	100	3	-

Field blanks and samples taken in direct flow of negative air units are reported as a fibre count only

The Detection Limit of the analytical method is 0.01 fibres/mL
The NOHSC: 2002 (2005) recommended Control Level for all forms of asbestos is 0.01 fibres/mL
Worksafe Australia's recommended Exposure Standard for all forms of asbestos is 0.1 fibres/mL

Robson Approved Signatory
Leo Menssen



No. 3181

NATA Approved Counter
Leo Menssen

Accredited for compliance with ISO/IEC 17025

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards

Table 2 to Procedure No.1

Respirable Fibre Estimation Test Report

Report No.: 7000-4179 **Sampling Date:** 22 Oct 2014 **Report Issued:** 23 Oct 2014
Monitoring Location: 12 Kintore Street, Yarralumla
Client Name & Address: Group 8 Environmental Pty Ltd
Work in Progress: Control Air Monitoring
Asbestos Removalist: n/a

Test Specification(s) Employed: NOHSC: Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003 (2005)], & In-House Procedure No. 1

Sample No.	Sampling Location	Time		Av. Flowrate	No. of Fields Counted	No. of Fibres Counted	Airborne Fibre Conc. (fibres/mL)
		On	Off				
70004179-6	Portaloo entrance	-	-	-	100	2	-
70004179-7	Original driveway	-	-	-	100	1	-
70004129-8	Power pole	-	-	-	100	2	-
70004179-9	Cnr Nova & Kintore	-	-	-	100	2	-
70004179-10	North boundary	-	-	-	100	3	-

Field blanks and samples taken in direct flow of negative air units are reported as a fibre count only

The Detection Limit of the analytical method is 0.01 fibres/mL
The NOHSC: 2002 (2005) recommended Control Level for all forms of asbestos is 0.01 fibres/mL
Worksafe Australia's recommended Exposure Standard for all forms of asbestos is 0.1 fibres/mL

Robson Approved Signatory
Leo Menssen



NATA Approved Counter
Leo Menssen

Accredited for compliance with ISO/IEC 17025

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards

Table 2 to Procedure No.1

Fibre Identification Certificate of Analysis

Report Number: 7000-4128 Date of Report: 23.10.2014 Samples Taken by: Client Page 1 of 2

Client Details	Laboratory Details
Client: Group 8 Environmental Pty Ltd	Address: 140 Gladstone Street, Fyshwick, Canberra 2609
Attention: Garry Miller	Manager: Ged Keane
Received: 22.10.2014	Telephone: 02 6239 5656
Client Reference: 12 Kintore Crescent, Yarralumla, ACT	Fax: 02 6239 5669
Email: group8canberra@gmail.com	Email: hazmat@robsonenviro.com
Test Specification(s) Employed: AS4964 (2004) & In-House Procedure No.2	

Methodology Summary

Samples of material are examined to determine the presence of asbestos fibres using AS4964 (2004) & In-House Procedure No.2 i.e. Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by **Polarised Light Microscopy (PLM)** in conjunction with **Dispersion Staining (DS)**. Unequivocal identification of asbestos minerals present is made by assessing fibre properties to see whether the values are typical and consistent with published data. This provides a reasonable degree of certainty to determine whether a fibre under investigation is asbestiform or not. Careful application of the test procedure provides sufficient diagnostic clues to allow unequivocal identification of asbestos types, and so, to determine whether a sample contains asbestos or not. If sufficient diagnostic clues are absent, then positive identification of fibrous asbestos is not possible.

Client Supplied Samples

Robson Environmental is not responsible for the accuracy or competence of sampling carried by third parties. Sample location(s) and/or sample type(s) of third party samples delivered to the laboratory are given by the client at the time of delivery. Under these circumstances, Robson Environmental cannot be held responsible for the interpretation of the results shown. When the test certificate indicates that bulk samples were taken by the client, they are outside the scope of our NATA Accreditation for sampling. Robson Environmental takes responsibility of information reported only when a staff member takes the sample(s).

Reporting of Results

'Asbestos Detected': Asbestos detected by **Polarised Light Microscopy (PLM)**, including **Dispersion Staining (DS)**
'No Asbestos Detected': No Asbestos detected by **Polarised Light Microscopy (PLM)**, including **Dispersion Staining (DS)**
'UMF Detected': Mineral fibres of unknown type detected by **Polarised Light Microscopy (PLM)**, including **Dispersion Staining (DS)**. Confirmation by another independent analytical technique may be necessary.
'Hand-picked' refers to small discrete amounts of asbestos unevenly distributed in a large body of non-asbestos material.

Limit of Detection & Reporting Limit

Known limitations of the test procedure using **Polarised Light Microscopy (PLM)** are:

- **PLM** is a qualitative technique only;
- It does not cover identification of airborne or water-borne asbestos;
- The less encountered asbestos mineral fibres actinolite, anthophyllite and tremolite exhibit a wide range of optical properties that preclude unequivocal identification by **PLM** and **Dispersion Staining (DS)**. Thus, the method is used to positively identify the three major asbestos minerals: amosite ("brown"), chrysotile ("white") and crocidolite ("blue");
- Valid identification requires that the sample material contains a sufficient quantity of the unknown fibres in excess of the practical detection limit used (in this case, **PLM** and **Dispersion Staining**, which has a calculated practical detection limit of 0.01-0.1% equivalent to 0.1-1g/kg (AS4946-2004:App. A4).

Results relate only to the sample(s) submitted for testing.

Test report must not be reproduced except in full.

Test report **Accredited for compliance with ISO/IEC 17025**

Sample No.	Client Ref.	Location	Physical Structure	Sample Description	Analysis of Fibrous Content
L4944a	A09	Client supplied	Soil	212 grams	No Asbestos Detected
L4944b	A10	Client supplied	Soil	218 grams	No Asbestos Detected
L4944c	A11	Client supplied	Soil	230 grams	No Asbestos Detected
L4944d	A12	Client supplied	Soil	230 grams	No Asbestos Detected
L4944e	A13	Client supplied	Soil	190 grams	No Asbestos Detected



Simon Saville

Robson Approved Identifier



No. 3181



Simon Saville

Robson Approved Signatory

Fibre Identification Certificate of Analysis

Laboratory Report Number: 7000-4128

Analyst: Simon Saville

Page 2 of 2

Sample No.	Client Ref.	Location	Physical Structure	Sample Description	Analysis of Fibrous Content
L4944f	A14	Client supplied	Soil	140 grams	No Asbestos Detected
L4944g	A15	Client supplied	Soil	130 grams	No Asbestos Detected
L4944h	A16	Client supplied	Soil	133 grams	No Asbestos Detected
L4944i	A17	Client supplied	Soil	123 grams	No Asbestos Detected
L4944j	A18	Client supplied	Soil	153 grams	No Asbestos Detected
L4944k	A19	Client supplied	Soil	240 grams	No Asbestos Detected
L4944l	A20	Client supplied	Soil	260 grams	No Asbestos Detected



Simon Saville

Robson Approved Identifier



No. 3181



Simon Saville

Robson Approved Signatory



ACT
Government

Justice and Community Safety

WORKSAFE ACT

Workplace Visit

Inspection No: WPV- 21118-017

Inspectors: (Lead inspector please checked box)		Date:	Time Commenced:	Time Finished:
☒ Cath Matthews	☐ Rachelle Huggett	27/10/2014	3:55	4:15

This visit is due to:

Proactive inspection ☐	Notifiable incident ☐	Complaint ☐	Other: Demolition
New Visit ☒	Revisit ☐	Assessment/Event number: E12415	

Legislation:

Work Health and Safety Act 2011 ☒	Dangerous Substances Act 2004 ☒	Workers Compensation Act 1951 ☐
Other:		

Name of Individual or Registered Company:

Group 8 Environmental Pty Ltd	ACN/ABN (if company): 601 494 964
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Business or trading name (if different):

	Contact name: Garry Miller
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Address (Include postcode):

PO Box 632, Dickson ACT 2602

Email Address:

group8canberra@gmail.com	Contact number: 0448 588 446
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Details of inspection:

Site address: 12 Kintore Crescent, Yarralumla

Notification of entry to (as required by s164):

Persons conducting businesses or undertakings ☒ Supervisor/manager ☐ HSR ☐ Other ☐

Inspector Notes:

Conducted WPV with Rachelle Huggett at 12 Kintore Crescent, Yarralumla.

Spoke to Garry Miller from Group 8 Environmental Pty Ltd on site.

Garry provided details of a toolbox talk conducted on site prior to works commencing. Sighted sign on sheet for toolbox talk.

Identified that as the footpath had been blocked, they would need to put a system in place to manage risks to pedestrians who needed to walk down the street to pass the site. Garry spoke to all workers on site and determined that if any pedestrians were passing the site, the stop/go workers would stop all traffic whilst the pedestrians were on the road.

Also identified that workers leaving the demolition site were not removing their PPE prior to crossing the road. Required all workers leaving the site to remove PPE due to potential asbestos contamination of PPE.

There were some issues with the trucks gaining access to the West Belconnen Resource Management Centre so this would mean that the demolition would not be able to be completed within one day. Garry advised that all remaining rubble at the end of the day would be sprayed with PVA and then covered and secured with tarps.

Requested copies of air monitoring results following the demolition process.

Left site at 11:15



Further Action:

No further action: ☐	Notices issued: Yes ☐ No ☒ If yes total issued:			Follow up required: ☒
Improvement Notice No.:	Prohibition Notice No.:	Non-Disturbance Notice No.:	Infringement Notice No.:	Other Notice No.:

Industry group:

Agriculture, Forestry and Fishing ☐	Retail Trade ☐	Government Administration and Defence ☐
Mining ☐	Accommodation, Cafes and Restaurants ☐	Education ☐
Manufacturing ☐	Transport and Storage ☐	Health and Community Services ☐
Electricity, Gas and Water Supply ☐	Communication Services ☐	Cultural and Recreational Services ☐
Construction ☒	Finance and Insurance ☐	Personal and Other Services ☐
Wholesale Trade ☐	Property and Business Services ☐	Not Identified ☐

PRIVACY NOTICE: The information collected for the purpose of the *Work Health and Safety Act 2011* and is in accordance with the *Information Privacy Act 2014*. WorkSafe ACT prevents any unreasonable intrusion into a person's privacy in accordance with the *Privacy Act 1988 (C'with)* and *Information Privacy Act 2014*. WorkSafe ACT provides identifiable information can be disclosed to other law enforcement agencies and authorised organisations that have legal authority to request information under prescribed circumstances.



ACT
Government

Environment and Planning

Certificate of Completion of Demolition

Certificate No.: **B20144468C1**

Planning and Land Authority

ABN 46 346 672 655
8 Darling Street Mitchell
GPO Box 1908 ACT 2601
www.environment.act.gov.au

This Certificate is issued in accordance with Section 71 (2) of the Building Act 2004.

The demolition of the building works listed on this certificate has been completed in accordance with the prescribed requirements.

Unit	Block	Section	Division (Suburb)	District	Jurisdiction
	8	92	YARRALUMLA	CANBERRA CENTRAL	Australian Capital Territory

Plans

B20144468/A

Building Works

Class of Occupancy	Nature of Work	Project Item Description	Other Description	Type Of Const.	Unit	BCN ID	Builder
1a(l)	Demolition	DA EXEMPT-RESIDENCE		NA		B20144468N2	DOUGLAS HECTOR MCCALLUM
10a	Demolition	DA EXEMPT-GARAGE		NA		B20144468N2	DOUGLAS HECTOR MCCALLUM

Comments

Important Note:

The issue, under this Part, of a certificate in respect of a building or portion of a building does not affect the liability of a person to comply with the provisions of a law of the territory (including this Act) relating to the building or portion of the building.

Issued by: Douglas Farr

Delegate of the ACT Construction
Occupations Registrar.

Issued on: 24/11/2014