

Greencap

104 Market Street
Wollongong NSW 2500
(02) 4298 2600
www.greencap.com.au



HAZARDOUS MATERIAL RISK ASSESSMENT



DATE: NOVEMBER 2019

SITE REFERENCE:
ISLHD-PKH-H

OUR REFERENCE:
C109541 : J161155-03



NSW HEALTH
PORT KEMBLA DISTRICT HOSPITAL - H - STORAGE SHED
COWPER STREET, WARRAWONG NSW 2502

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13/11/2019

REPORT PREPARED BY



ELLYSSA ANGELUCCI
Property Risk Consultant

13/12/2019

REPORT REVIEWED BY



TOM OYSTON
Property Risk Consultant

23/01/2020

REPORT AUTHORISED BY



BEN MORGAN
Senior Consultant - Property Risk

Introduction

This report presents the findings of a Hazardous Material Risk Assessment conducted for NSW Health of the site located at Cowper Street, Warrawong NSW 2502. The risk assessment was performed by Ellyssa Angelucci of Greencap on 13/11/2019.

This report was performed in accordance with:

- How to Manage and Control Asbestos in the Workplace: Code of Practice (SafeWork NSW, 2019)
- NSW Work Health & Safety Regulation 2017
- Australian Standard "AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings."
- Identification of PCB-Containing Capacitors 1997 ANZECC
- Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006 (1990)]

Scope of Works

The scope of works for this project was as follows:

- Inspect representative and accessible areas of the site to re-assess previously identified hazardous materials
- Identify the likelihood of hazardous materials in inaccessible areas
- Assess the current condition of hazardous materials at the site
- Assess the risks posed by the materials
- Compile an up-dated hazardous materials register for the site
- Recommend control measures and actions necessary to manage any hazardous material related risks
- Collect samples of suspected asbestos-containing materials
- Prepare site plans indicating the location of asbestos containing materials
- Collection of paint chip samples for analysis of percentage lead content
- Collection of representative dust samples for analysis of lead concentration

Refer to Methodology for full details.

Site Asbestos Risk Profile

The following table provides a summary of the Asbestos Risk Assessment for the site; item-specific findings are presented in the Hazardous Materials Register.

Building / Level	Number of Items by Risk Rating		
	High	Medium	Low
Storage Shed - Level 00	0	0	0
Total	0	0	0

Summary of Identified Items

No Hazardous Materials materials were identified within the scope of the assessment and subject to the limitations outlined within this report.

Recommendations

- Prior to demolition/refurbishment works undertake a destructive hazardous materials survey of the premises as per the requirements of AS 2601: 2001 The Demolition of Structures, Part 1.6.1 and Demolition Work Code of Practice (Safe Work Australia, Oct 2018).
- Should any personnel come across any suspected asbestos or hazardous materials, work should cease immediately in the affected areas until further sampling and investigation is performed.
- Areas highlighted in the Areas Not Accessed section as areas of 'no access' should be presumed to contain hazardous materials. Appropriate management planning should be implemented in order to control access to and maintenance activities in these areas, until such a time as they can be inspected and the presence or absence of hazardous materials can be confirmed.
- Greencap can assist with the implementation of any of the above recommendations.

The location and item information of identified materials

Hazard type: e.g. Asbestos, Lead Paint, SMF, etc.

Refer to the Sample Analysis Results for further details

Estimated quantity of material present

Details of warning labels present

The **control priority** and **control recommendations** indicate the recommended management actions, shaded according to priority. Refer to the Priority Rating System section for further information

Location - Item Description	Hazard Type	Sample No	Item Status	Photo No	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Re-Inspect Date	Control Priority	Control Recommendation	Record of Works Undertaken

This indicates if the material contains asbestos / hazardous materials:

Positive Item contains asbestos or other hazardous material.

Negative Item does not contain asbestos or other hazardous material covered in the scope of work.

Presumed Positive Item has not been sampled, but is visually similar to another positive sample or it is likely to contain asbestos / hazardous materials

Presumed Negative Item has not been sampled, but is visually similar to another negative sample or it is NOT likely to contain asbestos / hazardous materials

A photo of the item is within the Photo section

The potential of disturbance to material to liberate asbestos fibres

These are the **risk assessment factors** and **risk rating** of the item. Refer to the Risk Assessment Factors section for further information

Recommended re-inspection date, based on the risk rating of the material

Any information relating to remedial or removal works undertaken should be recorded by the Register controller.

Control Priority: The following priority rating system is adopted to assist in the programming and budgeting for control of asbestos risk identified in the assessment.

Priority 1 (P1)	Restrict access to area, organise abatement works ASAP, manage any remaining materials as part of an AMP.
Priority 2 (P2)	Organise remedial works in the next few months & manage any remaining materials as part of an AMP.
Priority 3 (P3)	No short-term remedial works required. Review periodically and manage as part of an AMP.
Priority 4 (P4)	No short-term remedial works required. Review periodically and manage as part of an AMP.

Site Details			Building Details						Audit Details			
Full Address:	Cowper Street, Warrawong NSW 2502		Building Name:	Storage Shed		Number of Levels:	1		Survey Date:	13-11-2019		
Property ID:	ISLHD-PKH-H		Est. Building Size:	45m ²		Est. Building Age:	1970		Inspected By:	Ellyssa Angelucci		
Client Name:	NSW Health		Roof Type:	Metal		Construction Type:	Brick		Company:	Greencap		

Item No.	Location - Item Description	Hazard Type	Sample No.	Item Status	Photo No.	Est. Extent	Condition	Friability	Dist. Potential	Risk Rating	Current Label	Reinspect Date	Control Priority	Control Recommendation	Record Of Works Undertaken
Storage Shed - Exterior - Level 00															
1	Store shed - South Infill Panels - High Level - Fibre Cement Sheeting	Asbestos	Previously Sampled Greencap Limited J149255-03-PKDH - H-001	Previously Sampled Negative	J161155-03-ISLHD-PKH-H-Photo001										

It is noted that Hazardous Materials may be contained within or behind those areas identified in the below table: Areas Not Accessed. Caution should be exercised when accessing these areas, particularly in relation to potential disturbance of the building fabric or concealed spaces.

1 of 1 Building

Area / Item	Not Accessed	Comments
	Storage Shed	
Gaskets, mastics & sealants to pipework, ductwork, mechanical equipment & construction/expansion joints	All	Storage Shed - Non-destructive survey
Height restricted areas of site and ceiling where safe lifting platforms were not provided	Some	Storage Shed - Roof - Above safe height working limits
Inside mechanical equipment	All	Storage Shed - Non-destructive survey, live mechanical hazard
Wall cavities	All	Storage Shed - Non-destructive survey



ITEM NO.: 1

PHOTO NO.: J161155-03-ISLHD-PKH-H-PHOTO001

RESULT: ASBESTOS - PREVIOUSLY SAMPLED NEGATIVE

BUILDING/LEVEL: STORAGE SHED - LEVEL 00

ROOM/LOCATION: STORE SHED - SOUTH

FEATURE/MATERIAL: INFILL PANELS - HIGH LEVEL - FIBRE CEMENT SHEETING

SAMPLE NO.: PREVIOUSLY SAMPLED GREENCAP LIMITED
J149255-03-PKDH - H-001

PORT KEMBLA DISTRICT HOSPITAL - H - STORAGE SHED 13-11-2019



Greencap Pty Ltd
ABN: 76 006 318 010
Level 2 / 11 Khartoum Road
North Ryde NSW 2113
Australia
P: (02) 9889 1800
F: (02) 9889 1811
www.greencap.com.au

Report Date: Thursday, 01/06/2017

Our ref: C107948:J149255-03 - PKDH-H

Gail O'Hara
Illawarra Shoalhaven Local Health District (ISLHD)
Cowper Street
WARRAWONG NSW 2502

Dear Gail,

Re: Asbestos Identification Analysis - Block H Storage Shed - Port Kembla District Hospital, 89-91 Cowper St, Warrawong NSW 2502

This letter presents the results of asbestos fibre identification analysis performed on 1 sample collected by Steve Harley of Greencap on Thursday, 04 May 2017. The sample was collected from Block H Storage Shed - Port Kembla District Hospital, 89-91 Cowper St, Warrawong NSW 2502.

All sample analysis was performed using polarised light microscopy, including dispersion staining in our Sydney Laboratory by the method of Australian Standard AS4964-2004 and supplementary work instruction in house method NALAB 302 Asbestos Identification.

The analysis was completed on Thursday, 11 May 2017.

The sample will be kept for six months and then disposed of, unless otherwise directed.

The results of the asbestos identification analysis are presented in the appended table.

Should you require further information please contact Scott McIlwain.

Yours sincerely,
Greencap

Holly Kitamura : Approved Identifier

Holly Kitamura : Approved Signatory



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Corporate Site No. 5450, Site No. 3402 Sydney Laboratory.
The results of the tests, calibrations and/or measurements
included in this document are traceable to Australian/National
standards.

PORT KEMBLA DISTRICT HOSPITAL - H - STORAGE SHED 13-11-2019

Sydney Laboratory
Sample Analysis Results

Report Date: Thursday, 01/06/2017

Our ref: C107948:J149255-03 - PKDH-H

Site Location:		Block H Storage Shed - Port Kembla District Hospital, 89-91 Cowper St, Warrawong NSW 2502	
	Sample ID	Sample Location/Description/Weight or Size	Analysis Result
1	J149255-03 - PKDH-H - 001	Storage Shed - Level 00 - Store shed - South - Infill Panels - High Level - Fibre Cement Sheeting Light pinkbrown-painted gold-grey layered fibre-cement sheet material ~ 44 x 19 x 6 mm	No Asbestos Detected Organic Fibres

J149255-03-PKDH-H Storage Shed - Port Kembla District Hospital NSW ID 2017-05-04

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Asbestos

This assessment was undertaken in accordance with the following documents and within the constraints of the scope of works:

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

NSW Work Health & Safety Regulation 2017

No representative samples of suspected asbestos-containing material were collected during the inspection.

Where samples are deemed necessary, they are collected and placed in plastic bags with clip-lock seals. The samples are then analysed in Greencap's NATA-accredited laboratory for the presence of asbestos by Polarised Light Microscopy.

Where it was determined that asbestos was present, a risk and priority assessment was conducted in accordance with Greencap's standard Risk Assessment and Priority Ranking System. Refer to section on Priority Rating System for detailed information on this system.

Inaccessible areas that are likely to contain asbestos have been assumed to contain asbestos until further inspection and analysis of samples has been undertaken by an approved analyst.

A strategy of using representative samples of suspected asbestos-containing materials has been used to minimise the number of samples and degree of disturbance. Because of this strategy, findings of the audit should be interpreted such that all visually similar materials in the same vicinity must be assumed to be composed of the same material until proven otherwise.

Suspected and/or confirmed asbestos containing materials were labelled in accordance with the requirements of AS 1319-1994 - Safety Signs for the Occupational Environment during the site inspection. Placement of labels has been based on the judgement of the surveyor taking into account aspects such as the location (e.g. public area or plant room), accessibility and disturbance potential of the items and the longevity of the label. Details of the items that have been labelled are provided in the Asbestos Register.

Synthetic Mineral Fibre (SMF)

Accessible areas where Synthetic Mineral Fibre (SMF) insulation was visually confirmed as being present were noted to give a general indication to the presence of SMF materials throughout the building.

Polychlorinated Biphenyls (PCBs)

Representative light fittings containing capacitors were inspected where safely practicable and details noted for cross-referencing with the ANZECC Identification of PCB-Containing Capacitors - 1997. Where metal capacitors were not listed on the database, these capacitors are noted as suspected to contain polychlorinated biphenyls.

Lead Paint

No paint chip samples were collected during the inspection. Where samples are deemed necessary, they are collected and placed in clip-lock plastic bags and sent to an external NATA-accredited laboratory for analysis of lead content (lead content reported as a percentage weight by weight) by ICP-AES methods.

Lead Dust

No lead containing dust samples were collected during the inspection. Where deemed necessary, sampling is conducted in accordance with AS 4874-2000 'Guide to the Investigation of Potentially Contaminated Soil and Deposited Dust as a Source of Lead Available to Humans' and analysed in an external NATA-accredited laboratory by ICP-AES methods.

Risk Assessment Factors - Asbestos

The presence of asbestos-containing materials (ACMs) does not necessarily constitute an exposure risk. However, if the ACM is sufficiently disturbed to cause the release of airborne respirable fibres, then an exposure risk may be posed to individuals. The assessment of the exposure risk posed by ACMs assesses (a) the material condition and friability, and (b) the disturbance potential.

Material Condition

The assessment factors for material condition include:

- Evidence of physical deterioration and/or water damage.
- Degree of friability of the ACM.
- Surface treatment, lining or coating (if present).
- Likelihood to sustain damage or deterioration in its current location and state.

Physical Condition and Damage

The condition of the ACM is rated as either being good, fair or poor.

- Good** refers to an ACM that has not been damaged or has not deteriorated
- Fair** refers to an ACM having suffered minor cracking or de-surfacing.
- Poor** describes an ACM which has been damaged or its condition has deteriorated over time.

Friability and Surface Treatment

The degree of friability of ACMs describes the ease of which the material can be crumbled, and hence to release fibres, and takes into account surface treatment.

Friable asbestos

Friable asbestos or ACM is asbestos or ACM in powder form, or able to be crumbled, pulverised, or reduced to a powder by hand pressure when it is dry e.g. sprayed asbestos beam insulation (limpet), pipe lagging.

Non-friable asbestos

also referred to as bonded asbestos, typically comprises asbestos fibres tightly bound in a stable non-asbestos matrix or impregnated with a coating. Examples of non-friable asbestos products include asbestos cement materials (sheeting, pipes etc), asbestos containing vinyl floor tiles, compressed gaskets and electrical backing boards.

Disturbance Potential

In order to assess the disturbance potential, the following factors are considered:

- Requirement for access for either building work or maintenance operations.
- Likelihood and frequency of disturbance of the ACM.
- Accessibility of the ACM.
- Proximity of the ACM to air plenums and direct air stream.
- Quantity and exposed surface areas of ACM.
- Normal use and activity in area, and numbers of persons in vicinity of ACM.

These factors are used to determine (i) the potential for fibre generation, and (ii) the potential for exposure to person/s, as a rating of low, medium or high disturbance potential:

Risk Status

The risk factors described previously are used to rank the asbestos exposure risk posed by the presence of the ACM.

- A low risk rating describes ACMs that pose a low exposure risk to personnel, employees and the general public providing they stay in a stable condition, for example asbestos materials that are in good condition and have low accessibility.
- A medium risk rating applies to ACMs that pose an increased exposure risk to people in the area.
- A high risk rating applies to ACMs that pose a higher exposure risk to personnel or the public in the vicinity of the material due to their condition or disturbance potential.

Priority Actions

The following priority rating system is adopted to assist in the programming and budgeting for the control of asbestos risk identified in the assessment.

Priority 1 (P1)	Action:	Restrict Access to Area & Organise Abatement Works as soon as practicable & Manage any remaining materials as part of an AMP
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Area has ACMs, which are either damaged or are being exposed via continual disturbance. Due to these conditions, there is an increased potential for exposure and/or transfer of the material to other locations with continued unrestricted use of the area. Representative asbestos fibre monitoring should be conducted in the area during normal building operation where recommended. Prompt abatement of the asbestos hazard is recommended.

As an interim, restrict access.

Priority 2 (P2)	Action:	Organise Remedial Works as soon as practicable & Manage any remaining materials as part of an AMP
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Area has ACMs with a potential for disturbance due to the following conditions:

1. Material has been disturbed or damaged and its current condition, while not posing an immediate hazard, is unstable.
2. The material is accessible and when disturbed, can present a short-term exposure risk.
3. Demolition, renovation, refurbishment, maintenance, modification or new installations, involving air-handling systems, ceilings, lighting, fire safety systems or floor layout.

Appropriate abatement measures should be taken as soon as practicable. A negligible exposure risk exists if materials remain under the control of an Asbestos Management Plan (AMP).

Priority 3 (P3)	Action:	No Short-Term Remedial Works Required Review periodically and Manage as part of an AMP
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Area has ACMs, where:

1. The condition of friable ACMs is currently stable and has low potential of being disturbed.
2. The ACM is currently in a non-friable form, may have slight damage, but does not present an exposure risk unless cut, drilled, sanded or otherwise abraded.

This presents a low risk of exposure where the materials are left undisturbed under the control of an Asbestos Management Plan (AMP). Defer any major action unless materials are to be disturbed as a result of maintenance, refurbishment or demolition operations.

Priority 4 (P4)	Action:	No Short-Term Remedial Works Required Review periodically and Manage as part of an AMP
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Area has ACMs in a non-friable form and in good condition. It is unlikely that the material can be disturbed under normal circumstances and can be safely subjected to normal traffic. Even if it were subjected to minor disturbance the material poses a negligible health risk. These materials should be maintained in good condition and their condition monitored during subsequent reviews. As with any asbestos materials, these materials must be removed prior to renovations that may impact on the materials.

The Occupational Health and Safety Regulations of most Australian states refer to a Code of Practice for guidance on identification and management of asbestos materials (ACMs) in workplaces. The requirements are summarised below.

Asbestos Management Plan (AMP)

An AMP should be developed for the site as per the Code of Practice. The AMP should be a broad ranging document detailing the following information:

- The site's asbestos material register.
- Responsibilities for relevant persons in the management of ACMs.
- Mechanisms for communicating the location, type and condition of ACMs, the risks posed by these and the control measures adopted to minimise these risks.
- Training arrangements for workers and contractors.
- A Procedure for reviewing and updating the AMP and the register.
- Air Monitoring and clearance inspection arrangements.
- Timetable for action to review risk assessments and undertake asbestos management activities.
- Records of any maintenance or service work conducted on ACMs, including clearance certificates for removed items.

Updates to Register, AMP and Risk Assessments

The asbestos register and the AMP should be reviewed (via visual inspection by a competent person) and updated at least every 5 years or earlier where a risk assessment indicates the need for a re-assessment or if any ACMs have been removed or updated as per the requirements of the Code of Practice.

Risk assessments should be reviewed regularly and as specified by the Code of Practice, particularly when there is evidence that the risk assessment is no longer valid, control measures are shown to be ineffective or there is a significant change planned for the workplace or work practices or procedures relevant to the risk assessment; or there is a change in ACM condition or ACMs have since been enclosed, encapsulated or removed.

Labelling

All confirmed or presumed ACMs (or their enclosures) should be labelled to identify the material as asbestos-containing or presumed asbestos-containing and to warn that the items should not be disturbed as per the requirements of the Code of Practice.

Training

Staff and site personnel must be provided with Asbestos Awareness training in accordance with the Code of Practice. Training should inform staff how to work safely alongside asbestos by instructing them of:

1. The health risks associated with asbestos.
2. Their roles and responsibilities under the AMP.
3. Procedures for managing asbestos on-site.
4. The correct use of control measures and safe work methods to minimise the risks from asbestos.

Refurbishment / Demolition Requirements

This audit is limited by the Scope of Works and Methodology outlined within this report.

Generally, a new audit or revised audit is required prior to any planned refurbishment, alteration, demolition or upgrade works that may disturb ACMs at the site in accordance with Australia Standard AS 2601: The Demolition of Structures and Demolition Work Code of Practice (SafeWork Australia, Oct 2018).

Removal of Asbestos Materials

Any works involving the removal of ACMs should be undertaken by a Licensed Asbestos Removal Contractor (LARC). In addition, an appropriately qualified independent asbestos consultant / occupational hygienist should undertake asbestos fibre air monitoring during/after works, and issue a Clearance Certificate to validate the works have been undertaken safely.

All works should be conducted in accordance with legislative requirements and following the requirements of the document 'How to Safely Remove Asbestos: Code of Practice (SafeWork NSW, 2019)'.

The Occupational Health and Safety Regulations of most Australian states have requirements for the identification and control of risks within workplaces. These broad requirements extends to the hazardous materials that may be present within the workplace. The requirements for management of hazardous materials are summarised below

Synthetic Mineral Fibre (SMF)

Synthetic Mineral Fibre (SMF) is a man-made insulation material used extensively in industrial, commercial and residential sites as fire rating, reinforcement in construction materials and as acoustic and thermal insulators. Types of SMF materials include fibreglass, rockwool, ceramic fibres and continuous glass filaments.

There are two basic forms of Synthetic Mineral Fibre (SMF) insulation, bonded and un-bonded.

- Bonded SMF is where adhesives, binders or cements have been applied to the SMF before delivery and the SMF product has a specific shape.
- Un-bonded SMF has no adhesives, binders or cements and the SMF is loose material packed into a package.

Exposure to SMF can result in short-term skin, eye and respiratory irritation. SMF is also classified as a possible human carcinogen with a possible increase in risk in lung cancer from long-term exposure.

The use of and the safe removal of SMF materials should be conducted in accordance with the National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006 (1990)].

Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) are a toxic organochlorine used as insulating fluids in electrical equipment such as transformers, capacitors and fluorescent light ballasts that were largely banned from importation in Australia in the 1970s.

PCBs are listed as a probable human carcinogen and should be managed in accordance with the ANZECC Polychlorinated Biphenyls Management Plan, 2003. The handling and disposal of PCBs must be performed in accordance with applicable state and commonwealth environmental protection laws as scheduled PCB waste.

The following Personal Protective Equipment (PPE) should be worn when handling items containing or suspected to contain PCBs - nitrile gloves, eye protection, and disposable overalls. The PPE should be worn when removing capacitors from light fittings in case PCBs leak from the capacitor housing.

Lead Paint

As per the Australian/New Zealand Standard (AS/NZS 4361.2:2017): Guide to hazardous paint management: Part 2: Lead paint in residential, public and commercial buildings: Section 1.4.16, Lead paint is defined as "a paint film that contains greater than 0.1% lead by mass in the dry film".

Lead carbonate (white lead) was once the main white pigment in paints for houses and public buildings. Paint with lead pigment was manufactured up until the late 1960's, and in 1969 the National Health and Medical Research Council's Uniform Paint Standard was amended to restrict lead content in domestic paint.

Lead in any form is toxic to humans when ingested or inhaled, with repeated transmission of particles cumulating in lead poisoning. Lead paint is assessed based on two potential routes of exposure. Firstly by the likelihood of inhalation or ingestion by people working in the vicinity of the paint and secondly by the condition of the paint. Paint that is flaking or in poor condition is more likely to be ingested than paint that is in a good, stable condition.

Any work relating to lead paint should be conducted in accordance with the 'National Code of Practice for the Control and Safe Use of Inorganic Lead at Work [NOHSC: 2015 (1994)]'.

Lead in Dust

Lead is ubiquitous in the urban environment, resulting from industrial processes, lead containing paint and as a by-product from the combustion of leaded petrol and other sources. Lead can accumulate as a constituent of settled dust, particularly in areas not frequently cleaned (such as ceiling spaces, plant rooms, etc) in older buildings.

There is currently no specific criteria for 'lead in dust' in Australia, however a criteria for lead in soil in residential settings of 300mg/kg is established. The use of this criteria for lead in dust is supported by a number of government agencies and papers, including the WA Department of Health 'Report on Lead Dust Monitoring in residences undertaken in Esperance Between 1 July and 8 August 2007' (December 2007), the NSW EPA document 'Managing Lead Contamination in Home Maintenance, Renovation and Demolition Practices: A Guide for Councils' (February 2003) and the EnHealth document 'Health-based Soil Investigation Levels' (March 2001).

Settled dust in ceilings, etc. is generally more finely divided than soils, and the disturbance or removal of dust with

elevated lead content has the potential to exceed exposure standards for inspirable dust and lead.

Prior to undertaking any removal work, the risk for potential exposure must be assessed and consideration to conducting health surveillance and biological monitoring should be given. Since it is difficult to use engineering controls to control airborne dust levels for some dust removal work situations (e.g. enclosed ceiling spaces), there is a greater reliance on personal respiratory protection to provide a safe working environment for the workers carrying out this task. Hence, any workers undertaking such tasks should have adequate training in correct work procedures, including the selection, use and maintenance of personal protective equipment and good personal hygiene practices.

This report has been prepared in accordance with the agreement between NSW Health and Greencap.

Within the limitations of the agreed upon scope of services, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

This report relates only to the identification of hazardous materials used in the construction of the building and does not include the identification of dangerous goods or hazardous substances in the form of chemicals used, stored or manufactured within the building or plant.

The following should also be noted:

While the survey has attempted to locate the hazardous materials within the site it should be noted that the review was a visual inspection and a limited sampling program was conducted and/or the analysis results of the previous report were used. Representative samples of suspect hazardous materials were collected for analysis. Other hazardous materials of similar appearance are assumed to have a similar content.

Not all suspected hazardous materials were sampled. Only those hazardous materials that were physically accessible could be located and identified. Therefore it is possible that hazardous materials, which may be concealed within inaccessible areas/voids, may not have been located during the audit. Such inaccessible areas fall into a number of categories.

- (a) Locations behind locked doors;
- (b) Inset ceilings or wall cavities;
- (c) Those areas accessible only by dismantling equipment or performing minor localised demolition works;
- (d) Service shafts, ducts etc., concealed within the building structure;
- (e) Energised services, gas, electrical, pressurised vessel and chemical lines;
- (f) Voids or internal areas of machinery, plant, equipment, air-conditioning ducts etc;
- (g) Totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works;
- (h) Height restricted areas
- (i) Areas deemed unsafe or hazardous at time of audit.

In addition to areas that were not accessible, the possible presence of hazardous building materials may not have been assessed because it was not considered practicable as:

1. It would require unnecessary dismantling of equipment; and/or
2. It was considered disruptive to the normal operations of the building; and/or
3. It may have caused unnecessary damage to equipment, furnishings or surfaces; and/or
4. The hazardous material was not considered to represent a significant exposure risk; and
5. The time taken to determine the presence of the hazardous building material was considered prohibitive.

Only minor destructive auditing and sampling techniques were employed to gain access to those areas documented in the Hazardous Materials Register. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected.

During the course of normal site works care should be exercised when entering any previously inaccessible areas or areas mentioned above and it is imperative that work cease pending further sampling if materials suspected of containing hazardous materials or unknown materials are encountered. Therefore during any refurbishment or demolition works, further investigations and assessment may be required should any suspect material be observed in previously inaccessible areas or areas not fully inspected previously, i.e. carpeted floors.