



Carmichael Tompkins Property Group Pty Ltd  
Hazardous Building Materials Survey

Kambala School  
794 New South Head Road,  
Rose Bay, NSW

7 April 2020

58081/127691 (Rev 1)  
JBS&G Australia Pty Ltd

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## Abbreviations

Term	Definition
AC	Asbestos Cement
ACM	Asbestos Containing Material
ACD	Asbestos Containing Dust
ANZECC	Australian and New Zealand Environment Conservation Council
AMP	Asbestos Management Plan
COC	Chain of Custody
EPA NSW	Environmental Protection Authority, New South Wales
FA	Friable Asbestos
HIL	Health Investigation Levels
HSL	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
LAA	Licensed Asbestos Assessor
LCD	Lead Containing Dust
LOR	Limit of Reporting
LP	Lead Paint
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
SMF	Synthetic Mineral Fibre
SWA	Safe Work Australia
SWNSW	SafeWork New South Wales
WHS (WH&S)	Workplace Health and Safety

## 1. Introduction

### 1.1 Background

JBS&G Australia (JBS&G) was engaged by Carmichael Tomkins Property Group Pty Ltd (CTPG, the client) to conduct a hazardous building materials survey (HBMS) of the structures associated with the proposed redevelopment at Kambala School, 794 New South Head Road, Rose Bay, NSW (the site). The site comprised the proposed redevelopment areas and is legally defined as part Lot 67 in Deposited Plan (DP) 2538 and Lots 1 to 7 and 9 to 12 in DP1116858. The site location is shown in **Figure 1** and the site layout is shown in **Figure 2**.

It is understood that the proposed Sports Precinct is located within the north-eastern portion of the school and currently comprises a sports field, tennis courts, associated shed structures, and the Music Building. The broader school redevelopment also includes the Hawthorne Building, Arts Building and Tivoli Building.

In order for the proposed development to proceed, a hazardous building material survey of existing structures within the proposed development area was required to address Secretary's Environmental Assessment Requirements (SEARs).

It is understood that the sports fields, tennis courts and associated shed structures are proposed to be demolished with proposed modifications to the Music Building to facilitate the redevelopment. Additionally, the Arts Building, southeast portion of the Tivoli Building, and the northern portion of the Hawthorne Building and are also proposed to be demolished in a future stage of the broader school redevelopment. The scope of the HBMS was limited to these structures. No other areas of the Kambala School were surveyed as part of this HBMS.

The structures were inspected for the following hazardous materials:

- Asbestos containing materials (ACMs);
- Asbestos containing dust (ACD);
- Lead based paints (LP);
- Lead containing Dust (LCD)
- Synthetic mineral fibres (SMF); and
- Polychlorinated biphenyls (PCB).

A previous asbestos register for the entire Kambala School, as detailed in **Section 1.4**, was provided to JBS&G prior to the completion of these works and the information presented in this previous survey was used in the preparation of this report.

### 1.2 Objectives

The objective of the HBMS was to determine the presence, quantity and condition of any hazardous materials within the buildings prior to proposed demolition works.

The HBMS and production of this report have been undertaken in accordance with the requirements of:

- *Work Health and Safety Act (2011)*;
- *Work Health and Safety Regulation (2017)*;
- *How to Safely Remove Asbestos Code of Practice, SafeWork NSW, (2019) (SWNSW 2019a)*;
- *How to Manage and Control Asbestos in the Workplace Code of Practice, SafeWork NSW (2019) (SWNSW 2019b)*;

- Australian Standard 4361.2 (1998) *Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings* (AS4361.2-1998);
- Australian Standard 4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* (AS4361.2-2017);
- National Occupational Health and Safety Commission's *National Standard for Synthetic Mineral Fibres* [NOHSC:1004(1990)];
- National Occupational Health and Safety Commission's *National Code of Practice for the Safe Use of Synthetic Mineral Fibres*, [NOHSC:2006(1990)]; and
- Australian and New Zealand Environment Conservation Council's *Identification of PCB-containing Capacitors: An information booklet for Electricians and Electrical Contractors*, (ANZECC 1997).

### 1.3 Hazardous Materials Survey Limitations

Whilst all reasonable care has been taken by JBS&G during the completed HBMS, this report is limited due to:

- Only safely accessible areas of the site were surveyed.
- Access restrictions to operational areas such as energised services, gas, air conditioning/heating, pressurised vessels, chemical lines etc.
- Potential materials located in areas in which they could not reasonably be envisaged or anticipated.
- Limited access to internal building components e.g. set floor, walls, ceiling cavities etc., in which case only representative areas were inspected with the hand tools available to the JBS&G consultants for destructive investigation.
- Access restrictions to areas above 3 metres or any area deemed inaccessible without the use of specialised equipment.
- Access to restrictions to areas of structures where the structural integrity for the floor and/or ceiling has been compromised.
- Service pits, confined spaces, voids, cavities within the building structure and internal areas of plant and equipment that could not be safely accessed.

It should be noted that buildings built between the 1930s - 1980s may have general occurrences of ACMs in areas which are not readily accessible with the hand tools available for the survey. These areas and materials include, inter alia:

- Fibre Cement Sheeting (FCS) used as packing to bearers and joists in the underfloor void or as boxing/shuttering to concrete formwork;
- FCS packing between window/door frames and timber studs; and
- Compressed FCS underneath tiled floor areas.

Whilst all care is taken by the consultants to uncover hidden materials, not all areas can be accessed within the allowable timeframe without more industrial (power) tools. As such, only minor destructive sampling techniques were employed to gain access. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected. JBS&G recommends that areas inaccessible during the survey be inspected as the demolition progresses. If suspected hazardous materials are observed, confirm the presence or absence of hazardous materials through laboratory testing.

In the event suspected hazardous materials are identified during strip out or demolition which are not included in this report, JBS&G recommends that works should cease and an assessment of the materials undertaken by a competent person for further appropriate recommendations.

No one section or part of a section of this report is to be taken as giving an overall idea of this report. Each section is to be read in conjunction with the whole of this report, including the appendices and attachments.

#### **1.4 Previous Hazardous Material and Asbestos Survey Works**

##### **1.4.1 KPMG SGA (2015) – Asbestos Register and Management Plan**

An Asbestos Register and Management Plan was prepared for the whole Kambala School Campus by KPMG SGA in 2015 (KPMG SGA 2015<sup>1</sup>). The inspection included a non-destructive survey of the school buildings constructed prior to 2004 for potential ACM, as well as limited sampling of the identified potential ACM.

The report details the presence, quantity, condition and location of any identified ACM. The survey was limited to asbestos materials only and did not include any other hazardous materials.

Based on a review of KPMG SGA 2015, the ACM identified – as relevant to the investigation areas in this HBMS – is summarised below:

- Fibre cement sheeting to ceiling of level 2 corridor of the Hawthorne Building;
- Fibre cement sheeting to the eaves of the Hawthorne Building; and
- Putty seal to external timber windows on the southern aspect of the Hawthorne Building, although the specific items listed were identified to be outside the scope of this HBMS.

The information presented in KPMG SGA 2015 was used in the preparation of this report

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<sup>1</sup> *Asbestos Register and Management Plan, Kambala, 794 New South Head Road, Rose Bay, NSW. KPMG SGA, Project No. 95500, February 2015. (KPMG SGA 2015)*



## 2. Methodology

### 2.1 Hazardous Materials

#### 2.1.1 Asbestos Containing Materials and Asbestos Containing Dust

Representative samples of suspected ACMs and ACDs were collected where possible and placed into a zip-lock bags. These were subsequently delivered to a NATA accredited laboratory for analysis using polarised light microscopy in conjunction with dispersion staining techniques. Similar materials to those analysed or other materials known to contain asbestos from the consultant's experience (e.g. Electrical backing boards, corrugated asbestos cement roofs and older fibre cement sheeting) or materials not accessible may also be assumed to contain asbestos as per the relevant Code of Practice.

At the time of inspection, the following details were recorded:

- Location;
- Type of material;
- Accessibility;
- Condition;
- Friability; and
- Volume/dimensions.

#### 2.1.2 Lead Based Paint

Australian Standard AS4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* defines lead paints as those in which the lead content (calculated as lead metal) is in excess of 0.1 percent by weight of the dry film. This can be determined by field spot tests, laboratory testing or the use of portable X-ray fluorescence (XRF) field tests. JBS&G utilises XRF technology as a screening tool for the identification of lead based paints in the field. A detection of lead greater than 0.1 mg/cm<sup>2</sup> was adopted for the assessment of lead based paints for this investigation with representative samples collected where possible and delivered to a NATA accredited laboratory for analysis using inductively coupled plasma optical emission spectrometry (ICP-OES).

#### 2.1.3 Lead Containing Dust

Representative samples of accumulated or settled dust were collected and delivered to a NATA accredited laboratory for analysis via ICP-OES. A conservative assessment criteria was adopted for this investigation given the potential for human exposure and the readily disturbed and uncontained nature of accumulated or settled dust.

Concentrations of lead within accumulated or settled dust were compared against the health investigation level (HIL) for residential sites with garden/accessible soil of 300 mg/kg as outlined in National Environment Protection Measure (NEPC 2013) guidelines.

#### 2.1.4 Polychlorinated Biphenyls

Old fluorescent light fittings and other appliances which may contain capacitors containing PCB dielectric oil are identified by inspection and evaluation with the consultant's experience of similar light fittings and appliances. Alternatively, where possible and when it was safe to do so, a representative light fitting was opened to reveal the capacitor and the make and model recorded to be compared against the ANZECC (1997) list of PCB containing capacitors.

### **2.1.5 Synthetic Mineral Fibres**

SMF containing materials were either sampled as per the asbestos methodology or assumed to contain SMF from the consultant's experience of similar materials.

### **2.2 Inaccessible Areas**

As per SWNSW 2019b, any areas not accessible must be recorded as such. Where hazardous materials are suspected to be contained within inaccessible areas, these shall be documented in this report and the associated Hazardous Materials Register (**Appendix A**).

### 3. Site Description

The HBMS was conducted on 11 February 2020 by Stuart Lumsden, one of JBS&G's experienced hazardous materials surveyors and a SafeWork NSW Licensed Asbestos Assessor (LAA 001140).

The site was bound by Bayview Hill Road to the north, New South Head Road to the east and south, and the remaining portion of the Kambala School to the southwest and west.

The investigation area comprised eight structures, as shown on **Figure 2**, and were identified as follows:

- Hawthorne Building (northern portion only);
- Toilet Block;
- Hydrant Booster;
- Shed;
- Sports Equipment Store;
- Music Building;
- Arts Building; and
- Tivoli Building (southeast portion only).

The type, location, friability, accessibility and approximate quantities of identified and suspected hazardous materials are provided in the Hazardous Materials Register in **Appendix A**. Photographs taken during the HBMS are presented in **Appendix B**. A summary of the observations made during the HBMS is included in the following sections.

#### 3.1 Hawthorne Building (Northern Portion)

The extent of the HBMS within the Hawthorn Building was limited to the northern portion only. No other areas of the Hawthorne Building were included as part of this HBMS.

The northern portion of the Hawthorne Building comprised a two-storey structure with cement tile roof, concrete floors, concrete and suspended tile ceilings, and a combination of exposed brick, cement rendered brick and plasterboard internal walls.

At the time of inspection, the internal areas comprised classrooms, reception and administration offices.

A summary of the significant observations made during the HBMS is as follows:

- Suspected asbestos containing fibre cement eaves and undercloak verge were identified to the external northern aspect. Representative samples were unable to be collected due to height safety hazards.
- Non-asbestos containing fibre cement sheeting (A-01) was identified to the reception entry soffit.
- Non-asbestos containing fibre cement sheeting (A-02) was identified to the west entry soffit.
- Non-asbestos containing fibre cement sheeting (A-03) was identified to the northeast entry soffit.
- Non-asbestos containing settled dust (AD-01) was identified to the floor surface of the ground floor comms room. This dust also contained lead concentrations below the adopted site criteria (LD-01, 25 mg/kg).

- Lead concentrations within settled dust within the roof void (LD-02, 330 mg/kg) were slightly elevated above the adopted site criteria. This dust was also found not to contain asbestos (AD-02).
- A number of non-lead based paints were identified throughout the building as follows:
  - Black paint to the aluminium framed windows (LP-01, < 0.01% w/w);
  - Cream paint to the west entry stair handrails (LP-02, 0.02% w/w);
  - Cream paint to the northern wall of the ground floor corridor (LP-03, < 0.01% w/w); and
  - Cream paint to the northern wall of the first floor corridor (LP-04, < 0.01% w/w).
- The fluorescent light fittings identified throughout the building were of modern age and appearance. These light fittings are not suspected to contain PCB containing capacitors.
- Suspected SMF lagging was identified to a pipe running along the northern side of the ground floor corridor.
- Suspected SMF containing suspended ceiling tiles were identified to the ground floor classroom and administration offices, and the first floor administration offices.
- Suspected SMF insulation was identified to the air conditioning ducting throughout the roof void.
- Suspected SMF insulation batts were identified to the east wall of the roof void.
- The previously identified suspected asbestos containing fibre cement sheeting to the ceiling of the level 2 corridor was unable to be located at the time of inspection. It is assumed that the material has been removed since KPMG SGA 2015, however, no removal or clearance documentation was made available to JBS&G.

### 3.2 Toilet Block

The Toilet Block comprised a three storey structure adjoining the Hawthorne Building to the east with a corrugated metal roof, concrete floors, exposed brick external walls, concrete and plasterboard ceilings, and ceramic tiled brick internal walls. Internally, each floor comprised toilet facilities with identical layouts.

No hazardous materials were identified at the time of inspection.

### 3.3 Hydrant Booster

The Hydrant Booster was located in the southern corner of the sports field and comprised a corrugated metal shed structure with a concrete floor. The Hydrant Booster comprised a motor, pump and associated pipework within the structure and external pipework and valves.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing gaskets (A-04) were identified to the external pipework. Similar gaskets were also identified to the internal pipework.
- Lead based red/orange paint (LP-05, 3.0% w/w) was identified to the external pipework, internal pipework, motor and pump. This paint system was observed to be in fair condition with minor deterioration.

### 3.4 Shed

The Shed was located adjacent to the Hydrant Booster in the southern corner of the sports field and comprised a corrugated metal shed structure with a concrete floor.

No hazardous materials were identified at the time of inspection.

### 3.5 Sports Equipment Store

The Sports Equipment Store was located in the northern corner of the sports fields, adjacent the tennis courts and comprised corrugated metal roof and external walls, concrete floor, and fibre cement sheet internal wall partitions.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing fibre cement sheeting (A-05) was identified to the internal wall partitions.
- Lead concentrations within settled dust (LD-03, 38 mg/kg) below the adopted site criteria was identified to the internal floor surface.
- The fluorescent light fittings identified throughout the building were of modern age and appearance. These light fittings are not suspected to contain PCB containing capacitors.

### 3.6 Music Building

The Music Building was located in the northwest portion of the site and comprised a single storey structure with the tennis courts located on the roof. The eastern portion of the Music Building was constructed in 1973 with the western portion (Ann & John Lewis Wing) constructed in 2011.

The building comprised a concrete roof (with tennis courts), exposed brick external walls, concrete floors with various coverings, cement rendered brick and plasterboard internal walls, and a combination of suspended ceiling, fixed plasterboard exposed concrete ceilings.

It is understood that the entire Music Building is not proposed to be demolished as part of the redevelopment, however, minor demolition and refurbishments are planned.

Based on the age of the Ann & John Lewis Wing, no ACMs, PCBs, or lead paints/dusts are suspected to be present in this portion of the building.

A summary of the significant observations made during the HBMS is as follows:

- Non-lead based green paint (LP-06, 0.07% w/w) was identified to the plant room doors.
- Lead concentrations within settled dust to the plant room floor (LD-04, 250 mg/kg) were slightly below the adopted site criteria. This dust was also found not to contain asbestos (AD-03).
- Non-asbestos containing cream vinyl floor tiles (A-06) were identified to the staff kitchen in the eastern portion of the building.
- Asbestos containing fibre cement sheeting (A-07) was identified to the internal linings of the fire hose reel cupboard in the eastern portion. This material was also identified to the girls and staff toilets in the eastern portion.
- An instant hot water system was identified in the kitchen within the eastern portion and is suspected to contain internal SMF insulation.
- Suspected SMF insulation was identified to the suspended ceiling tiles in the main hallway within the eastern portion.
- Suspected SMF insulation was identified to the air conditioning plant and ducting within the plant room.
- An instant hot and cold water system was identified in the kitchen of the Ann & John Lewis Wing.

- Old fluorescent light fittings were identified throughout the eastern portion and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

### 3.7 Arts Building

The Arts Building was located in the southern portion of the site and comprised a double storey structure constructed in 1979. The eastern portion comprised a lecture theatre and the western portion comprised the arts rooms.

The building comprised a corrugated metal roof, exposed brick external walls, cement rendered brick internal walls, concrete floors, and a combination of suspended tile and concrete ceilings.

It is understood that the Arts Building is proposed to be demolished within a later stage of the redevelopment.

A summary of the significant observations made during the HBMS is as follows:

- A suspected asbestos containing electrical mounting board was identified within the electrical cabinet in the lecture theatre plant room. A sample was unable to be collected due to the supply of live electricity.
- Suspected asbestos containing mastic was identified to the flange joints of the air conditioning ducting within the lecture theatre plant room. A sample was unable to be collected due to height safety hazards.
- Suspected asbestos containing mastic was identified to the metal framed windows to the western portion. A sample was unable to be collected due to height safety hazards.
- Suspected asbestos containing fibre cement sheeting was identified to the external fascia and external west entry soffit to the western portion. The material was in good condition and samples were unable to be collected without causing visible damage.
- Non-asbestos containing brown vinyl flooring (A-08) was identified to the pottery classroom and associated store rooms on the ground floor.
- Non-asbestos containing brown vinyl flooring (A-09) was identified to the arts classrooms and associated store rooms on the first floor.
- Lead concentrations within settled dust to the lecture theatre plant room floor (LD-05, 200 mg/kg) were below the adopted site criteria. This dust was also found not to contain asbestos (AD-04).
- Non-lead based cream paint (LP-07, < 0.01% w/w) was identified to the internal walls throughout.
- A number of suspected SMF materials were identified within the lecture theatre plant room as follows:
  - Internal insulation to the boiler;
  - Insulation lagging to pipework throughout;
  - Internal insulation to the air conditioning plant; and
  - Insulation sarking to the roof and walls.
- Suspected SMF insulation was identified to the air conditioning ducting within the south hallway ceiling cavities.
- Suspected SMF insulation sarking was identified to the roof of the western portion.

- Old fluorescent light fittings were identified within the lecture theatre plant room and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

### **3.8 Tivoli Building (Southeast Portion)**

The extent of the HBMS within the Tivoli Building was limited to the southeast portion only. No other areas of the Tivoli Building were included as part of this HBMS.

The southeast portion of the Tivoli Building comprised a two-storey structure with slate tile roof, concrete and timber floors, plaster ceilings, and cement rendered brick walls. The ground floor comprised the school canteen and the first floor comprised a dormitory room.

It is understood that the southeast portion of the Tivoli Building and associated roof structures over the courtyard are proposed to be demolished within a later stage of the redevelopment.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing fibre cement roof shingles (A-10) were identified to the covered walkway adjacent to the east of the Tivoli Building.
- Non-asbestos containing fibre cement sheeting (A-11) was identified to the soffit linings of the roof structures to the canteen courtyard.
- Non-asbestos containing cream vinyl flooring (A-12) was identified to the canteen.
- Lead based cream paint (LP-08, 0.52% w/w) was identified to the external timber windows.
- Non-lead based cream paint (LP-09, 0.06% w/w) was identified to the external metal fire stairs.
- Based on the age of the building, all remaining internal and external paints are assumed to comprise lead based paints.
- There were no access points to the roof void of the southeast portion of the building, therefore, there is the potential for hazardous materials to be present within this area of the building.

## 4. Results

### 4.1 Hazardous Materials

All identified hazardous materials are recorded in the Hazardous Materials Register in **Appendix A** with relevant photographs in **Appendix B**. NATA accredited laboratory analysis reports and chain of custody are provided in **Appendix C**.

#### 4.1.1 Asbestos Containing Materials

ACM were identified by testing at an accredited NATA laboratory and/or visual inspection using the experience of the hazardous materials surveyor. A summary of the results of laboratory testing for asbestos are provided in **Table A** below.

**Table A: Asbestos Results Summary Table**

Sample ID	Lab ID	Sample Location	Results	Observed Condition
<b>Hawthorne Building</b>				
A-01	20-Fe13754	Reception entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
A-02	20-Fe13755	West entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
A-03	20-Fe13756	Northeast entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
<b>Hydrant Booster</b>				
A-04	20-Fe13757	External pipework – gasket	No Asbestos Detected	N/A
<b>Sports Equipment Store</b>				
A-05	20-Fe13758	Internal partition walls – fibre cement sheeting	No Asbestos Detected	N/A
<b>Music Building</b>				
A-06	20-Ma42803	Eastern portion, staff kitchen – cream vinyl tiles	No Asbestos Detected	N/A
A-07	20-Ma42804	Eastern portion, fire hose reel cupboard – fibre cement sheeting	<b>Chrysotile Asbestos</b>	Non-Friable
<b>Arts Building</b>				
A-08	20-Ma42805	Ground floor pottery classroom & store rooms – brown vinyl	No Asbestos Detected	N/A
A-09	20-Ma42806	First floor arts classrooms & store rooms – brown vinyl	No Asbestos Detected	N/A
<b>Tivoli Building</b>				
A-10	20-Ma42807	Eastern covered walkway – fibre cement roof shingles	No Asbestos Detected	N/A
A-11	20-Ma42808	Canteen courtyard, soffits – fibre cement sheeting	No Asbestos Detected	N/A
A-12	20-Ma42809	Canteen – cream vinyl	No Asbestos Detected	N/A

#### 4.1.2 Asbestos Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for asbestos are provided in **Table B** below:

**Table B: Asbestos Dust Results Summary Table**

Sample ID	Lab ID	Sample Location	Results	Observed Condition
<b>Hawthorne Building</b>				
AD-01	20-Fe13759	Ground floor, comms room – settled dust	No Asbestos Detected	N/A
AD-02	20-Fe13760	Roof void – settled dust	No Asbestos Detected	N/A
<b>Music Building</b>				



Sample ID	Lab ID	Sample Location	Results	Observed Condition
AD-03	20-Ma42810	Plant room floor – settled dust	No Asbestos Detected	N/A
<b>Arts Building</b>				
AD-04	20-Ma42811	Lecture theatre plant room – settled dust	No Asbestos Detected	N/A

#### 4.1.3 Lead Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for lead are provided in **Table C** below:

**Table C: Lead Dust Results Summary Table**

Sample ID	Lab ID	Sample Location	Results	Observed Condition
<b>Hawthorne Building</b>				
LD-01	20-Fe13761	Ground floor, comms room – settled dust	25 mg/kg	N/A
LD-02	20-Fe13762	Roof void – settled dust	<b>330 mg/kg</b>	Poor
<b>Sports Equipment Store</b>				
LD-03	20-Fe13763	Mezzanine floor – settled dust	38 mg/kg	N/A
<b>Music Building</b>				
LD-04	20-Ma42812	Plant room floor – settled dust	250 mg/kg	N/A
<b>Arts Building</b>				
LD-05	20-Ma42813	Lecture theatre plant room – settled dust	200 mg/kg	N/A

#### 4.1.4 Lead Based Paints

Representative paint samples were collected throughout the building for laboratory testing. A summary of the results of laboratory testing for lead are provided in **Table D** below.

**Table D: Lead Paint Results Summary Table**

Sample ID	Lab ID	Sample Location	Results	Observed Condition
<b>Hawthorne Building</b>				
LP-01	20-Fe13764	Aluminium framed windows – black paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
LP-02	20-Fe13765	West entry, stair handrails – cream paint	Non-Lead Based Paint (0.02% w/w)	N/A
LP-03	20-Fe13766	Ground floor corridor, north wall – cream paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
LP-04	20-Fe13767	First floor corridor, north wall – cream paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
<b>Hydrant Booster</b>				
LP-05	20-Fe13768	External pipework – red/orange paint	<b>Lead Based Paint (3.0% w/w)</b>	Fair
<b>Music Building</b>				
LP-06	20-Ma42814	Plant room doors – green paint	Non-Lead Based Paint (0.07% w/w)	N/A
<b>Arts Building</b>				
LP-07	20-Ma42815	Internal walls throughout – cream paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
<b>Tivoli Building</b>				
LP-08	20-Ma42816	External timber windows – cream paint	<b>Lead Based Paint (3.0% w/w)</b>	Poor
LP-09	20-Ma42817	External metal fire stairs – cream paint	Non-Lead Based Paint (0.06% w/w)	N/A

#### **4.1.5 Polychlorinated Biphenyls**

Old fluorescent light fittings were identified within the lecture theatre plant room of the Arts Building and the eastern portion of the Music Building, and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

#### **4.1.6 Synthetic Mineral Fibres**

Suspected SMF materials were identified in various forms throughout the site. Full details of all identified SMF materials are provided in the Hazardous Materials Register (**Appendix A**). The typical forms of SMF identified are summarised below:

- Lagging to pipework;
- Suspended ceiling tiles;
- Internal insulation to instant and standard hot water systems, boilers, and instant hot and cold water systems;
- Insulation to roof sarking;
- Internal insulation to air conditioning plant; and
- Insulation to air conditioning ducting.

#### **4.2 Inaccessible Areas**

There was no access to the roof void of the southeast portion of the Tivoli Building due to no access point and there is the potential for hazardous materials to be present within the area.

## 5. Conclusions and Recommendations

Based on the scope of this assessment and with reference to the limitations included in **Section 6**, the following conclusions are made with respect to the Hazardous Materials Survey completed.

### 5.1 Hazardous Materials

Identified and suspected hazardous materials were observed throughout the building as a result of visual identification and laboratory analysis.

The following recommendations are made for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. The person with management or control of the site, must ensure so far as is reasonably practicable that the identified hazardous materials are removed prior to the commencement of demolition works.

The identified and suspected hazardous materials are presented in the Hazardous Materials Register included as **Appendix A**.

#### 5.1.1 Asbestos Containing Materials

Suspected non-friable ACM has been identified at the site. Prior to the demolition of the structures it is recommended that the following work is undertaken:

- A Class A or B licensed asbestos removalist shall be engaged to remove all asbestos containing materials as identified in the Hazardous Materials Register (**Appendix A**). Removal and disposal of non-friable asbestos materials shall be undertaken in accordance with the *Work Health and Safety Act (2011)*, *Work Health and Safety Regulation (2017)* and *SWNSW 2019a*.
- While not mandatory during the removal of non-friable ACM, it is considered best practice and recommended that asbestos air monitoring is undertaken during any non-friable asbestos removal works.
- Following removal works, a clearance inspection shall be completed by a competent person or licensed asbestos assessor to ensure that the asbestos materials identified at the site have been removed to a satisfactory standard. Following the completion of the clearance inspection, a clearance certificate shall be issued by the competent person or LAA to confirm that the ACM has been successfully removed and that the site is suitable for planned demolition works to commence.

#### 5.1.2 Lead Containing Dust

Levels of lead in dust were identified slightly above the adopted site criteria within the roof void of the Hawthorne Building. A conservative approach is recommended to be implemented to manage this identified hazard during demolition and refurbishment works.

A suitably experienced hazardous materials removal contractor should be engaged to remove the lead containing dust prior to demolition. Lead dust waste removed from education facilities is pre-classified as General Solid Waste (non-putrescible) in accordance with the NSW Environmental Protection Authority (2014) *Waste Classification Guidelines – Part 1: Classifying Waste* (EPA 2014).

The roof void should remain restricted from general access until the lead dust hazard is removed.

Should the lead containing dust remain on site for an extended period of time, a lead management plan or similar should be prepared detailing the procedures and requirements to reduce the potential for lead dust exposure if site workers are required to access the hazardous area.

### **5.1.3 Lead Based Paints**

Lead based paints identified in Hazardous Materials Register (**Appendix A**) should be managed in accordance with the AS4361.2-2017. If peeling or deteriorated they should be removed under controlled conditions by an experienced contractor prior to demolition. Stable lead based paints adhered to building fabric can be removed as general solid waste provided care is taken to minimise any potential for paint flakes to be dispersed onto ground surfaces.

Any lead paint waste removed from an education facility is pre-classified as General Solid Waste (non-putrescible) (EPA 2014).

### **5.1.4 Polychlorinated Biphenyls**

The old fluorescent light fittings within the lecture theatre plant room of the Arts Building and throughout the eastern portion of the Music Building should be removed and disposed of as Scheduled Waste or re-inspected once isolated from the electrical system to confirm the presence or absence of PCB capacitors.

### **5.1.5 Synthetic Mineral Fibres**

The synthetic mineral fibres encountered during this inspection were generally contained and deemed to be low risk. These SMF materials can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE is recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

## **5.2 Inaccessible Areas**

Areas inaccessible during the current HBMS should be inspected by a suitably qualified competent person prior to any works commencing. Suspected ACM should be sampled by a suitably qualified competent person prior to any works commencing.

## **5.3 Unexpected Finds**

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

## 6. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

## Figures

**Figure 1 Site Location**

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**Figure 2 Site Layout**

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## Appendix A Hazardous Materials Register



## Appendix B Photographs

## **Appendix C Laboratory Analysis Reports and Chain of Custody Documentation**



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