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Phase 1 Hazmat Report: Sandstone Project

23-33 and 35-39 Bridge Street, Sydney, NSW, 2000

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1 INTRODUCTION

CETEC were engaged by Tristar Sandstone Pty. Ltd. to conduct an assessment of hazardous materials prior to the proposed redevelopment of the heritage listed Sandstones Precinct into a luxury hotel, The Patina Sydney.

The site (referred to from here on in as The Sandstones) is made up of the Lands Building and the Education Building located at 23-33 and 35-39 Bridge Street, Sydney, NSW, 2000 respectively.

The Lands Building was predominantly constructed between 1880 and 1894 however the clock was installed in the tower in 1938 and it is evident that additions to the fitout have been made at various times up until the present day.

The Education Building was predominantly constructed between 1912 and 1930; however it is evident that additions, mainly to the internal fitout and roof, have been made at various times up until the present day.

1.1 Objective and Scope

The objective of this report is to provide a high level overview of hazardous materials for the submission of the stage 2 development application. To deliver this report the following scope of work was conducted:

- Historical hazardous material reports were reviewed.
- An initial walkthrough inspection of the Education Building and Lands Building was conducted on August 17 and 18, 2016 respectively. The aim of the initial inspection was to observe the current site conditions and determine if they were the same or similar to those described by historical hazardous materials reports. The inspection did not involve any sampling of suspected hazardous materials or destructive investigations so as not to cause disruption to the current tenants of the building.

1.2 Limitations

The findings, recommendations and any opinions expressed in this report rely heavily on observations and testing conducted by other parties, therefore CETEC cannot confirm the competency of the individuals who have conducted previous assessments, the accuracy of observations, the quality of samples that were collected by other parties or the quality of laboratory analysis results.

2 HISTORICAL HAZARDOUS MATERIALS REPORTS

CETEC has been supplied and has reviewed the following hazardous materials reports for the Sandstones site:

Report Title: Hazardous Materials Survey: 23-33 Bridge Street, Sydney NSW

Report Number: 001825

Issue Date: 10/04/2014

Completed By: GHD Pty Ltd

Commissioned By: Government Property NSW (GPNSW)

Report Title: Hazardous Materials Survey Report: 35-39 Bridge Street, Sydney NSW 2000

Report Number: NA

Issue Date: 14/06/2011

Completed By: Environmental Monitoring Services Pty Ltd

Commissioned By: NSW Public Works Project Management

Report Title: Preliminary Environmental and Hazardous Materials Assessment: Lands Department Building, 22-23 Bridge Street, Sydney NSW 2000

Report Number: 50951-02

Issue Date: July 2014

Completed By: Prensa Pty Ltd

Commissioned By: Napier and Blakely Pty Ltd

3 OVERVIEW OF IDENTIFIED HAZARDOUS MATERIALS

Based on the review of hazardous materials reports and site inspections conducted by CETEC staff, the hazardous materials that have been identified or that are suspected at the Sandstones site are summarised in Table 1. For more information, a detailed hazardous materials register for each building in excel format is provided along with this report.

Table 1: *Hazardous materials identified at the sandstones site*

Material Type	Material Application	Locations material has been identified or is suspected	Approximate total amount fixed or installed In the structure of buildings
Asbestos fibre cement sheeting (Non-friable)	Wall linings, ceiling linings and infill panels	Education Building: Levels G-5 and Roof	Approx. 12m^2 positively identified by laboratory analysis Numerous items, >100m^2 suspected. Test when practical.
Asbestos fibre cement sheeting (Non-friable)	Ceiling linings, eaves, infill panels and debris	Lands Building: Levels G, 3 and 4	Approx. 95m^2 positively identified by laboratory analysis <10m^2 suspected. Test when practical.
Asbestos friction materials and electrical insulation (Friable and non-friable)	Lift motor components	Education Building: North and south lift motor rooms	4 lift motors suspected to contain asbestos. Test when practical
Asbestos friction materials and electrical insulation (Friable and non-friable)	Lift motor components	Lands Building: North and south lift motor rooms	4 lift motors suspected to contain asbestos. Test when practical
Asbestos electrical boards (Non-friable)	Electrical backing boards	Education Building: All levels	Up to 20-30 suspected. Test when practical
Asbestos electrical boards (Non-friable)	Electrical backing boards	Lands Building: All levels	Up to 20-30 suspected. Test when practical

Material Type	Material Application	Locations material has been identified or is suspected	Approximate total amount fixed or installed In the structure of buildings
Asbestos insulation in fire doors (Friable)	Fire door	Education Building	Potentially some old doors remain that contain asbestos. Inspect and test when practical
Asbestos insulation in fire doors (Friable)	Fire door	Lands Building: Levels G-5	Up to 20-30 suspected. Test when practical
Asbestos gaskets (Friable)	Gas meter gasket	Education Building	Not inspected previously. Inspect and test when practical. Note that it is often impractical to identify all gaskets in working equipment
Asbestos gaskets (Friable)	Gas meter gasket	Lands Building : Ground level	1 identified. Note that it is often impractical to identify all gaskets in working equipment
Asbestos millboard (Friable)	Insulation around electrical duct heaters and insulation to boiler	Education Building	Not covered by EMS report. Inspect and test when practical.
Asbestos millboard (Friable)	Insulation around electrical duct heaters and insulation to boiler	Lands Building : Level 4 and ground	3 EDHs suspected on level 4. Recommend detailed investigation in entire building when practical. <1m^2 of boiler insulation identified
Lead paint (various colours)	Internal and external paint systems	Education Building	According to previous register none remains as what had been identified was removed. Based on CETEC observations up to 1000m2 per level of

Material Type	Material Application	Locations material has been identified or is suspected	Approximate total amount fixed or installed In the structure of buildings
			old paint suspected to contain lead may exist in ceiling cavities and plant rooms. Test when practical
Lead paint (various colours)	Internal and external paint systems	Lands Building: All levels	>5000m^2 positively identified by laboratory analysis
Lead sheet	Flashings	Education Building: mainly roof	Not quantified
Lead sheet	Flashings	Lands Building: mainly roof	Not quantified
Lead dust in cavities	Dust	Education Building:	Not assessed. Inspect and test dust in cavities when practical
Lead dust in cavities	Dust	Lands Building: Ceiling void in level 1	Dust with a lead concentration of 12.2mg/kg identified. Lead dust contamination required further assessment.
Synthetic mineral fibre (SMF)	Insulation materials to fire doors, ducting, pipes, wall and ceiling linings and water heaters	Education Building: Throughout	Not quantified
Synthetic mineral fibre (SMF)	Insulation materials to fire doors, ducting, pipes, wall and ceiling linings and water heaters	Lands Building: Throughout	Not quantified
Polychlorinated biphenyl (PCB)	Fluorescent light capacitors	Education Building: Throughout	None identified by previous report but it is suspected

Material Type	Material Application	Locations material has been identified or is suspected	Approximate total amount fixed or installed In the structure of buildings
			some older light fittings may remain. Inspect any suspect old light fittings when practical. Oily spill observed on ground level where mains enter building may also contain PCB.
Polychlorinated biphenyl (PCB)	Fluorescent light capacitors	Lands Building: Throughout	Up to 30-50 confirmed or suspected. Inspect when practical
Mercury	Fluorescent light tubes	Education Building: Throughout	All fluorescent light tubes contain mercury
Mercury	Fluorescent light tubes	Lands Building: Throughout	All fluorescent light tubes contain mercury
Ozone depleting substances (ODS) including but not limited to R22, R407C, R410A	HVAC and refrigeration	Education Building: Throughout	Not quantified
Ozone depleting substances (ODS) including but not limited to R22, R407C, R410A zone depleting substances (ODS)	HVAC and refrigeration	Lands Building: Throughout	Not quantified

4 FURTHER ASSESSMENT

Based on the findings of the review of the historical hazmat reports and initial site visits the following is recommended:

- Conduct further detailed sampling investigations of possible hazardous materials at the Education Building including;
  - Fibre cement wall lining around the external roof plant needs to be tested.
  - Fibre cement infill panels in skylights needs to be tested.
  - Fibre cement infill panels in plant rooms around ceiling penetrations needs to be tested.
  - Pointing and mastic to sandstone looks variable and multi layered and needs to be tested. A stone mason may be required to assist with investigation.
  - Window sealant mastic looks variable and needs to be tested.
  - Investigate possible hazardous materials that may exist under current floor coverings. Destructive testing, so should be conducted after tenants vacate.
  - Investigate possible old membrane under the current membrane on the roof. Destructive testing, so should be conducted after tenants vacate.
  - Electrical boards throughout need to be tested. An electrician may be required to assist with this investigation.
  - Conduct an audit of fire doors. Destructive testing, so should be conducted after tenants vacate.
  - Investigate possible millboard insulation around electrical duct heaters. The HVAC contractor may be required to assist with this investigation.
  - Lead paint may be underestimated in current reports and needs to be tested in ceiling cavities and plant rooms.
  - Investigate possible lead dust contamination in cavities and voids.
  - Investigate further possible PCB capacitors in old lights. An electrician may be required to

assist with this investigation.

- Conduct further detailed sampling investigations of possible hazardous materials at the Lands Building including;

  - Pointing and mastic to sandstone looks variable and multi layered and needs to be tested. A stone mason may be required to assist with investigation.

  - Window sealant mastic looks variable and needs to be tested.

  - Investigate possible hazardous materials that may exist under current floor coverings. Destructive testing, so should be conducted after tenants vacate.

  - Investigate possible old membrane under the current membrane on the roof. Destructive testing, so should be conducted after tenants vacate.

  - Electrical boards throughout need to be tested. An electrician may be required to assist with this investigation.

  - Conduct an audit of fire doors. Destructive testing, so should be conducted after tenants vacate.

  - Investigate possible lead dust contamination in cavities and voids.

  - Investigate further possible PCB capacitors in old lights. An electrician may be required to assist with this investigation.

5 MANAGEMENT OF HAZARDOUS MATERIALS

5.1 Regulatory Requirements

Legislative requirements, codes of practise and guidelines relating to the management and removal of hazardous materials include but are not limited to:

- Workplace Health and Safety Act and Regulation (2011)
- Safe Work Australia Demolition Work Code of Practice (2015)
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]
- National code of Practice for the Control of Workplace Hazardous Substances [NOHSC:2007(1994)]
- How To Safely Remove Asbestos – Code of Practice (2011)
- How To Manage And Control Asbestos In The Workplace – Code of Practice (2011)
- AS 4361.2 Guide to lead paint management - Residential and commercial buildings (1998)
- National Standard for the Control of Inorganic Lead at Work [NOHSC:1012(1994)]
- National Code Of Practice for the Control and Safe Use of Inorganic Lead at Work [NOHSC:2015(1994)]
- National Standard for Synthetic Mineral Fibres [NOHSC:1004(1990)]
- National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)]
- Identification of PCB-Containing Capacitors (ANZECC 1997)
- Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995
- Ozone Protection and Synthetic Greenhouse Gas Management Amendment Regulation 2012 (No 1)
- Environmentally Hazardous Chemicals Act 1985
- Protection of the Environment Operations Act 1997

5.2 Asbestos

All asbestos that is likely to be disturbed by the demolition must be identified and, so far as is reasonably practicable, be removed before the demolition is started.

General requirements for conducting asbestos removal work are as follows:

- Asbestos should be removed in accordance with the WHS Regulation 2011 and How to Safely Remove Asbestos: Code of Practice (WorkSafe 2011).
- The planning, removal methodology, control measures, monitoring requirements and clearance procedures for the removal of asbestos must be determined in consultation with an occupational hygienist and documented in the Asbestos Removal Control Plan prior to commencing removal.
- An asbestos removal control plan should include as a minimum;
  - The method proposed to be used to remove the asbestos;
  - The approximate quantity and kind of asbestos to be removed;
  - The equipment proposed to be used to remove the asbestos, including any personal protective equipment;
  - Details of the proposed air monitoring and clearance procedures
  - Transportation and waste disposal requirements
- The person(s) removing asbestos must be a holder of an A classes asbestos removal license for friable asbestos and a B class asbestos removal license for non-friable asbestos.
- The person conducting air monitoring and clearance for asbestos removal must be a Licensed Asbestos Assessor (LAA) for friable asbestos or suitably qualified for non-friable asbestos.
- WorkCover NSW must be notified at least 5 days prior to any licensed asbestos removal.

5.3 Lead

The following precautions should be taken when demolishing materials containing lead (>1% w/w), lead contaminated dust (>150mg/m^2) or for any works defined as a lead process in accordance with the WHS Regulation 2011:

- Inform workers of potential risks and provide training about preventing exposure to lead
- Conduct health monitoring of workers conducting work involving materials that contain lead
- Ensure lead contamination is confined to the lead process work area
  - Adopt methods that minimise the generation of lead dust and fumes
  - Conduct lead air monitoring and surface dust testing to validate controls are effective at preventing the spread of lead contamination for lead process work.
  - Occupational hygienist should review controls measures and revise as necessary.
- Clean work areas promptly and properly during and after work
- Prohibit eating, drinking, smoking and chewing gum in the lead process area
- Supply changing and washing facilities for workers
- Supply appropriate PPE as well as laundering or disposal facilities for contaminated PPE
- Notify WorkCover NSW of activities determined to be lead risk work within 7 days.

5.4 Synthetic Mineral Fibres (SMF)

Materials containing Synthetic Mineral Fibres may be removed during general demolition works. The precautions which should be taken when demolishing materials containing SMF include:

- PPE should be provided to workers and worn when insulation is being handled or removed
- Dust should be suppressed by damping down with water or PVA

5.5 Polychlorinated Biphenyls (PCB)

Workers can be exposed to Polychlorinated Biphenyls (PCBs) when dismantling electrical capacitors and transformers or when cleaning up spills and leaks. Appropriate control measures should be implemented when handling damaged capacitors to ensure that any spillage does not contact workers and is appropriately cleaned up and disposed of.

Prior to demolition of buildings capacitors should be inspected to confirm if they are on the list of known PCB containing capacitors (Identification of PCB-Containing Capacitors (ANZECC 1997)).

PPE including gloves made of materials that are resistant to PCBs (for example polyethylene, nitrile rubber or neoprene), should be provided to workers and worn when there is any likelihood of exposure to PCBs.

5.6 Mercury in Fluorescent Lamps

Mercury is extremely toxic and exposure should be avoided where possible. The best way to prevent mercury exposure from fluorescent lamps is to avoid breaking the lamps.

Disposal of fluorescent lamps to landfill is not recommended and if possible they should be taken to a facility that can recover the mercury contained in the lamp.

5.7 Ozone Depleting Substances (ODS)

It is recommended that refrigerant gases deemed to be ODS are reclaimed from all parts of an air-conditioning or refrigeration system by a qualified and experienced person in such a way that prevents the gases release into the atmosphere. The person(s) conducting this work should use appropriate PPE and work methods to avoid exposure to the gas.

5.8 Storage and Disposal of Waste

Storage and disposal of hazardous materials waste and contaminated PPE must be conducted as follows:

- All waste must be contained (sealed) in suitable containers, waste bags or wrapped with 200µm plastic.
- All waste must be labelled in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
- All waste must be removed from the site as soon as practicable however if waste has to be stored on-site it must be stored in a secure area in an environmentally friendly manner.
- All waste must be transported in an appropriately licensed and registered vehicle. Preferably one that is covered and leak-proof.
- All waste must be disposed of at a waste facility that can lawfully receive this waste.

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