

Our ref: 3000.00 L01

WSP Environment & Energy

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7 October 2010

Bursar Sydney Church of England Grammar School c/o Mr Dennis Zines WSP Fitzwalter

Dear Bursar,

Subject: Supplementary Hazardous Materials Assessment Report – 20 Edward Street, North Sydney 2060

1.0 Introduction & Objectives

WSP Environmental Pty Limited, trading as WSP Environment & Energy (WSP), was engaged by WSP Fitzwalter to conduct a hazardous materials assessment (HMA) and a limited soil investigation at the above site. This letter pertains to the HMA only with a separate letter report prepared for the limited soil investigation works.

A previous HMA was conducted by Hibbs & Associates (HA 2009) of the on-site buildings (Nursing Home, Main House, Coach House, Tom O'Neilll building and storage outbuildings). The objective of the supplementary HMA conducted by WSP was to visually confirm the findings of the (HA 2009) report and conduct a hazardous materials assessment of previously inaccessible areas of the Main House (including ceilings, basements and beneath floor boards). The investigation focused on the potential for asbestos and lead-based paints.

The assessment complied where applicable with the following:

- 1. Worksafe Australia Code of Practice on the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)];
- Worksafe Australia Synthetic Mineral Fibres: National Standard and National Code of Practice, May 1990.
- 3. Occupational Health and Safety Act, 2000.
- 4. Occupational Health and Safety Act Regulation, 2001.
- 5. Australian Standard: Guide to lead paint management, Part 2: Residential and commercial buildings (AS 4361.2 1998)

The following report should be read in conjunction with Attachment E – Limitations of the Assessment.

2.0 Scope of Work

The site inspection was undertaken on 9 September, 2010. The assessment was conducted to identify and confirm via sampling and analysis (where accessible), potential asbestos containing materials and lead based paints beneath the floor boards, basement and ceiling areas of the Main House.

The assessment included the following tasks:

- Inspection of buildings to visually confirm hazardous containing materials from the (HA 2009) HMA report.
- Sampling of asbestos and lead-based paints beneath the floor boards, ceiling and basement areas of the Main House.
- Photographing, recording and describing potential hazardous containing materials.



- Submission of samples for laboratory analysis.
- Preparation of a Hazardous Materials Register (provided in Attachment A).
- Preparation of a Supplementary HMA.

3.0 Regulations/ Guidelines

The assessment complied with the following guidelines:

- National Occupational Health and Safety, Code of Practice for the Safe Removal of Asbestos (2nd Edition, NOHSC: 2002, 2005).
- Worksafe Australia Synthetic Mineral Fibres: National Standard and National Code of Practice May 1990.
- NSW Occupational Health and Safety Act and Regulations.
- NSW Department of Environment, Climate Change & Water (2009). Waste Classification Guidelines: Part 1: Classifying Waste
- Protection of the Environment Operations (Waste) Regulations 2005.
- Protection of the Environment Operations Act, 1997.

4.0 Site Description

At the time of the inspection, the property consisted of four (4) main buildings situated between Edward Street and Union Street, North Sydney. The buildings consisted of a series of weatherboard, brick and sandstone multi and single storey buildings. The internal wall linings throughout the site included asbestos and fibre-cement sheeting, masonite, plasterboard, timber and ceramic tile. Suspended and fixed plasterboard, decorative plasterboard and timber ceilings were observed. The floor coverings included ceramic tile, timber parquetry, carpet and vinyl sheeting.

The Main House was predominantly constructed of sandstone with a slate roof, internal concrete rendered sandstone walls, plasterboard ceiling and a combination of ceramic tile, vinyl sheeting, carpet and timber floor boards. The house was originally a residential home before being modified to serve as a convalescent home, comprising of hospital wards, servant quarters, kitchen, billiard room, movie room, laundry and roof top walk.

No access was available to the rooftop area.

5.0 Hazardous Materials Methodology

Asbestos

Asbestos is the fibrous form of mineral silicates belonging to the serpentine and amphibole groups of the rock-forming minerals, including amosite (brown asbestos), crocidolite (blue asbestos), chrysotile (white asbestos), tremolite, actinolite, anthophyllite or mixture containing one or more of these.

Asbestos was historically utilised in a large variety of building materials where temperature or weather protection was required. Such products include compressed fibre cement sheeting, vermiculite insulation, pipe lagging and electrical backing boards. The use of asbestos in building materials was phased out in Australia in the early/ mid 1980s.

The health effects associated with asbestos exposure relate to the inhalation of airborne respirable asbestos fibres. In general, asbestos fibres cannot be released or become airborne in significant quantities unless the asbestos containing material is disrupted, for example in the case of cutting asbestos-cement (AC) products with power saws etc.

This component of the assessment was carried out in accordance with the guidelines documented in the Worksafe Australia Code of Practice on the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)] (the 'NOHSC Code of Practice').



Synthetic Mineral Fibre

Synthetic Mineral Fibres (SMF) are a group of amorphous substances, including Glasswool, Rockwool and Ceramic fibre that have been fiberised by mechanical means, such as spinning or blowing during manufacturing. SMFs are commonly found in false ceiling panels and insulation and are typically identified by visual observation or by Optical Microscope techniques. The major application of SMF materials is in thermal and acoustic insulation, and as a reinforcing agent. In some specialised instances, these materials have been used as a replacement for asbestos, especially where high temperature insulation properties are required. Ceramic fibre has also been used to replace refractory brick and mortar materials. Much of the international literature refers to SMF as 'Man Made Mineral Fibres' (MMMF).

In the late 1980s the International Agency for Research on Cancer (IARC) evaluated certain SMF materials as being possibly carcinogenic to humans. The similarity in application and appearance to asbestos has resulted in some community concern regarding the health effects associated with exposure to SMF.

This report broadly identifies SMF materials found or suspected of being present during the survey.

Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) are a group of synthetic organic compounds, which have historically been an important ingredient in many industrial products. PCBs are highly stable chemicals with good insulating properties, they do not degrade appreciably over time or with exposure to high temperatures, acids or alkalis. It is these properties that made PCBs attractive for use in electrical devices. PCBs have commonly been used as an insulating fluid inside transformers and capacitors. Capacitors and ballast resistors containing PCBs were installed in various types of equipment including fluorescent light fittings predominantly from the 1950s to the 1970s. Fluorescent light-fittings containing capacitors can be compared with details contained in the ANZECC Identification of PCB Containing Capacitors database (1997).

PCBs are highly persistent, bioaccumulative chemicals with health effects associated with exposure to PCBs including acne-like skin conditions in adults and neurobehavioral and immunological changes in children. PCBs may be a human carcinogen, an endocrine disruptor and an immune system disruptor.

Lead Based Paint

Lead carbonate (white lead) was once the principal white pigment in paints for houses and public buildings. Paint with lead pigment was manufactured up until the late 1960s, and in 1969 the National Health and Medical Research Council's Uniform Paint Standard was amended to restrict the lead content in domestic paint. The use of lead in paint as a significant component was phased out in Australia by the early 1980s.

Many older Australian buildings still contain lead-based paint, even though it may be covered with layers of more recent paint. Lead-based paint was used mainly on exterior surfaces, and to a lesser degree on interior doors and door and window architraves, especially in undercoats and primers, where concentrations of up to 20 percent lead content were used. Interior walls were not commonly painted with paint containing white lead pigment, although some colours did contain red, orange and yellow lead pigments.

Lead in any form is toxic to humans when ingested or inhaled, with repeated transmission of particles cumulating in lead poisoning. Lead paint removal poses two potential avenues of transmission. Firstly by inhalation or ingestion by workers and public in the vicinity of the works, and secondly by the deposition of particles on nearby footpaths, streets or soil where they may be re-suspended, tracked into houses or buildings where it can be inhaled or ingested.

Lead paint is identified in the Australian Standard Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings (AS 4361.2 – 1998) as paint having a lead content in excess of 1% by weight (10 000 mg/kg). In most cases external enamel paint used from the 1800s to 1970s have levels of lead above 1%. Paint samples above this figure may become a hazard if allowed to flake, peel or deteriorate in any way that allows it to come in contact with



humans. Generally external enamel paint on timber in older buildings may be regarded as containing lead (i.e. >1%).

6.0 Hazardous Materials Findings (Hibbs & Associates 2009)

The Hibbs & Associates (2009) HMA report has been summarised as follows.

The scope of the HMA survey was limited to a visual inspection of the accessible and representative construction materials, finishing materials and building services, and the collection of materials suspected of containing hazardous materials which include asbestos containing materials, synthetic mineral fibre (SMF) materials, fluorescent light capacitor fittings containing polychlorinated biphenyls (PCB) and deteriorating or flaking lead based paint systems applied to the building. A field portable x-ray fluorescence (XRF) spectrum analyser was used for the measurement of lead content and Lead Check Swabs were used in areas where the XRF could not be used.

Based on the (HA 2009) HMA report, the following scope of works was conducted:

- In total, 172 paint samples were tested with either the XRF or Lead Check Swabs;
- In total, 60 samples of materials suspected of containing asbestos were collected and analysed; and
- Fluorescent lights were examined to determine whether lights were fitted with PCB containing ballast capacitors.

Based on the (HA 2009) HMA report, the following findings were reported:

- No friable asbestos was identified;
- Localized areas of bonded asbestos materials were found throughout the Nursing Home, Main House and the Tom O'Neill Building as asbestos cement sheet walls, ceiling linings, backing to vinyl floor sheeting, eaves, external boiler room flue, balcony and weatherboards;
- SMF containing materials were identified within the insulation to ceiling, pipe work, ducting and hot water services throughout the nursing home.
- No fluorescent light fitting with capacitors thought to contain PCB's were found.
- A large quantity of lead based paint systems were identified within all the building. Deterioration of paint surfaces were noted in the Main House.

7.0 Hazardous Materials Findings (WSP 2010)

Based on the sampling methodology and number of samples collected, the HA (2009) HMA survey is considered comprehensive and adequate for the purposes of quantifying known and suspected hazardous materials at the site.

The (HA 2009) report however did not conduct sampling beneath the floor boards, basement and ceiling areas of the Main House due to access constraints. WSP subsequently conducted supplementary HMA works of these previously inaccessible areas on 9 September 2010.

Eleven (11) locations were rendered accessible for sampling including six (6) from the ceiling and five (5) from floor coverings. Eight (8) locations were sampled by WSP. Two locations could not be sampled due to safety reasons and one location was not sampled due to an absence of potential asbestos containing materials. Sampling locations are shown in Attachment A – Figure 2.

Generally the materials observed beneath the floor boards comprised crushed concrete, timber and metal piping. The ceiling comprised plasterboard, timber and chipboard. No asbestos containing materials were observed on the ceiling or beneath the floor boards, with the exception of the ceiling in domestic services/ cleaning room on the existing Ground Floor.



A sample collected from the ceiling identified chrysotile and amosite asbestos (see asbestos results below).

Within the basement area, one (1) sheeting of fibrous material (approximate dimensions: 0.5 m x 1 m) potentially containing asbestos was observed adjacent to a brick pylon (Attachment D – Site Photos). No potential lead-based paints were observed beneath the floor coverings and basement areas.

The findings of the supplementary HMA are summarised below.

Asbestos

No asbestos was identified in any of the samples selected for analysis, with the exception of one (1) sample collected from the ceiling in the domestic services/ cleaning room (S3) on the existing Ground Floor. The sample reported chrysotile and amosite asbestos and covers an approximate ceiling area of 20 m². Given the relatively good condition of the ceiling and the painted surface, asbestos dust is unlikely to be generated. Should the condition of the ceiling deteriorate with time, it should be managed under the Hazardous Materials Management Recommendations.

No other asbestos containing materials were identified based on the samples analysed.

No sampling was conducted from the most northwesterly room of the Main House due to safety reasons (height restrictions). The ceiling paint was observed to be flaking and in a poor stat of repair. As such, the ceiling material should be repaired or removed in accordance with the Hazardous Materials Management Recommendations (see below).

Lead Based Paint

Based on the (NAA 2009) report and the WSP sampling areas shown on Attachment A - Figure 2 & 3, the following ceiling areas were noted to comprise lead based paints based on LeadCheck Swabs (0.5%) or the XRF spectrum analyser:

- Ground Floor, most northwest room, ceiling white coloured paint system;
- Ground Floor, domestic services/cleaning room, where S3 was sampled white coloured paint system of ceiling;
- First Floor, most southwest room, where S6 was sampled white coloured paint system;
- First Floor, 3rd room from the most southwest room, where S4 was sampled white coloured paint system of ceiling; and
- First floor (First exit off main stair case), hallway to bedrooms, ceiling white coloured paint system.

The painted surfaces of the ceilings were noted to be in relatively poor condition, showing some signs of deterioration and weathering, with the exception of the ground floor, domestic services/cleaning room and the first floor hallway (first exit off main stair case). No other ceiling areas included in the inspection comprised lead-based paints.

Synthetic Mineral Fibre (SMF)

No SMF containing materials were identified

Polychlorinated Biphenyls (PCB)

Given no fluorescent light fitting with capacitors thought to contain PCB's were found by (HA 2009), no further investigation works were conducted into these areas. Furthermore, light fittings potentially containing PCB capacitors were not encountered during the Supplementary Hazardous Materials Assessment conducted by WSP.



8.0 Hazardous Materials Management Recommendations

The WSP hazardous materials management recommendations should be read in conjunction with the conclusions and recommendations outlined in the Hibbs & Associates (2009) Hazardous Materials Survey report.

General Requirements

Under the NSW Occupational Health & Safety Regulation (2001), there is a requirement for the Controller of Premises to:

- Identify hazards;
- Assess the risk arising from those hazards:
- Eliminate or control those risks;
- Monitor or review risk control measures; and
- Provide sufficient OH&S information to employees, those exposed to risk at the premises and to those who have to fulfil those responsibilities above.

The controller of premises should be aware of the requirements above in relation to the demolition program for the site buildings. Appropriately experienced, qualified and registered demolition contractors should be used.

Asbestos

All work carried out should be conducted in accordance with the following documents which provide legal requirements as well as requirements for removal methods, personnel protective equipment and waste handling and storage:

- National Occupational Health and Safety (NOHSC:2002, 2005) Code of Practice for the Safe Removal of Asbestos;
- NSW DECCW (2009) Waste Classification Guidelines (Part 1: Classifying Waste);
- Protection of the Environment Operations (Waste) Regulations 2005;
- Protection of the Environment Operations Act 1997;
- Occupational Health and Safety Act, 2000; and
- Occupational Health and Safety Regulation, 2001.

Removal of asbestos containing materials should be conducted by an appropriately qualified and licensed asbestos demolition contractor. A certificate from WorkCover NSW and a licensed asbestos removal contractor is required prior to the commencement of demolition works if friable asbestos is present. These requirements also exist for bonded asbestos if the area to be removed is greater than 50 m².

Contaminated Dusts

In order to prevent contaminated dusts leaving the site via entrainment by demolition equipment, these materials must be removed or contained prior to dismantling and demolition of other structures at the site. Suitable methods for removal of these dusts are considered to be wet vacuum or wet down and vacuum. Suitable filters and industrial vacuum equipment approved (AS 3544 – 1988) for use in asbestos removal works should be used for this purpose.

The dust material is present in and around most buildings due to the breakage of cement fibre sheeting. It is unlikely that asbestos containing dusts are contained within ceiling spaces as those buildings with ceiling spaces have either corrugated iron or tiled roofs. However, as with all demolition projects, careful removal of all dusts associated with the buildings is recommended.



Dust which contains asbestos fibres will require disposal as a regulated asbestos waste. An onsite containment area for these wastes will also be required prior to disposal.

Appropriate approved personal protective equipment, in accordance with NOHSC guidelines should be used for all workers undertaking direct removal works.

An airborne fibre monitoring program should be prepared and implemented. This should include personal monitoring for workers inside the building, and at strategic locations outside the work area to monitor exposure levels for other site workers and the general public.

Contingency Plan

Should material be identified during the demolition that are suspected to be asbestos containing material, the material should be assumed as containing asbestos, removed or stored appropriately until further sampling and analysis can be undertaken. All appropriate personnel protective equipment should be worn when handling these items. Handling of the material should also be undertaken in accordance with the guidelines listed above.

Synthetic Mineral Fibre (SMF)

Removal of bonded SMF material (e.g. ceiling tiles) is generally easier and less hazardous than unbonded SMF material. Any physical abrasion, including cutting, should be kept to a minimum during removal. Such removal can be performed in a dry condition if there is minimal physical abrasion. Only in circumstances where heat or other causes have made the bonded SMF attach itself to the substrate should physical abrasion take place. If this occurs, removal should be performed as for unbonded SMF removal.

Removal of unbonded material (e.g. insulation in wall and ceiling cavities) is difficult and more hazardous. The unbonded material should be thoroughly wetted before removal takes place. Dry removal may be necessary when there are electrical and heat considerations. Increased respiratory protection may be necessary when working in enclosed or poorly ventilated spaces or where the SMF insulation has undergone physical change.

Currently there are no special requirements for the disposal of SMF products; however the National Code of Practice for the Safe use of SMF products requires that these materials be stored in suitable containers which prevent the release of fibres. Some waste landfills may have specific requirements for the handling of SMF materials, and this should be determined prior to removal of these products.

As a precaution, the SMF materials present on the site should be removed and disposed of as asbestos waste and should be undertaken in accordance with the following:

- National Occupational Health and Safety (NOHSC:2006, 1990) National Code of Practice for the Safe Use of Synthetic Mineral Fibres;
- EPA NSW Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-liquid Wastes 2004;
- Protection of the Environment Operations (Waste) Regulations 2005;
- Protection of the Environment Operations Act 1997;
- Occupational Health and Safety Act, 2000; and
- Occupational Health and Safety Regulation, 2001.

Polychlorinated Biphenyls (PCB)

All metal encased fluorescent lighting capacitors must be assumed to be PCB-containing until otherwise identified and should be removed and dismantled prior to demolition.

Capacitors containing PCBs and are classified as Scheduled PCB waste, as defined by the ANZECC Polychlorinated Biphenyls Management Plan (July 1999). These materials therefore require appropriate collection, transport and disposal in accordance with the specifications of the NSW EPA (2004) Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-liquid Wastes.



Waste Containers should be labelled with the following: ENVIRONMENTAL CONTAMINANT - CLASS 6.1(A) CAUTION - CONTAINS POLYCHLORINATED BIPHENYL (PCB) A TOXIC ENVIRONMENTAL CONTAMINANT UN NUMBER 2315

A bunded area should be set up to allow for segregated storage of capacitors confirmed as PCB-containing. The capacitors should be assessed in accordance with identification of PCB-containing capacitors (ANZECC, 1997).

Appropriate personal protective equipment and measures should be adhered to when handling PCB-containing materials. This entails the wearing of Level D PPE (long cotton drill sleeved-shirt and trousers or disposable Tyvek® and disposable nitrile gloves). Disposable gloves and any other materials which become contaminated with PCBs should be disposed of as non-scheduled PCB-containing waste in accordance with the NSW EPA and ANZECC documents referenced above. All personnel should wash their hands thoroughly after handling capacitors and before eating, drinking or smoking.

All work carried out should be in accordance with:

- Polychlorinated Biphenyl (PCB) Wastes Chemical Control Order June 1997 (PCB CCO 1997);
- National Strategy for the Management of Scheduled Waste, Polychlorinated Biphenyls Management Plan - November 1996 (Revised 2003);
- EPA NSW Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-liquid Wastes 2004;
- Protection of the Environment Operations (Waste) Regulations 2005;
- Protection of the Environment Operations Act 1997;
- Occupational Health and Safety Act, 2000; and
- Occupational Health and Safety Regulation, 2001.

Lead Based Paint (LBP)

As with all demolition works, care should be taken to ensure dust levels are minimised, thus reducing the potential for lead exposure. Appropriate lead dust management measures should be employed during demolition.

All work must be carried out in accordance with the *Australian Standard: Guide to lead paint management, Part 2: Residential and commercial buildings (AS 4361.2 - 1998).* Contractors and employees directly involved in the demolition of the buildings should wear appropriate Personal Protective Equipment (PPE).

This work should include all appropriate measures to protect personnel and the environment from lead-contaminated dust including full containment of any abrasive paint removal activities and the provision of respirators with appropriate canisters in compliance with AS 1716-1994. Any paint and associated dust removed should be contained and collected with a high-efficiency particulate air (HEPA) vacuum cleaner, complying with AS 3544-1998. The collected dust should be contained for sampling and analysis of total and leachable lead content and then classified for disposal in accordance with the NSW EPA (2004) guidelines.

In accordance with the NSW EPA (2004) guidelines, painted bricks, concrete, fixtures and other equipment are classified as 'Inert Waste' and can be disposed of to any landfill licensed to receive these materials. Note that these bricks cannot be subsequently crushed for recycling as road base or similar.



Yours sincerely

Prepared by,

Alan Ly
Environmental Scientist

WSP Environmental Solutions

Attached:

Attachment A – Figures

Attachment B – Asbestos Register

Attachment C - Laboratory Report

Attachment D – Site Photos

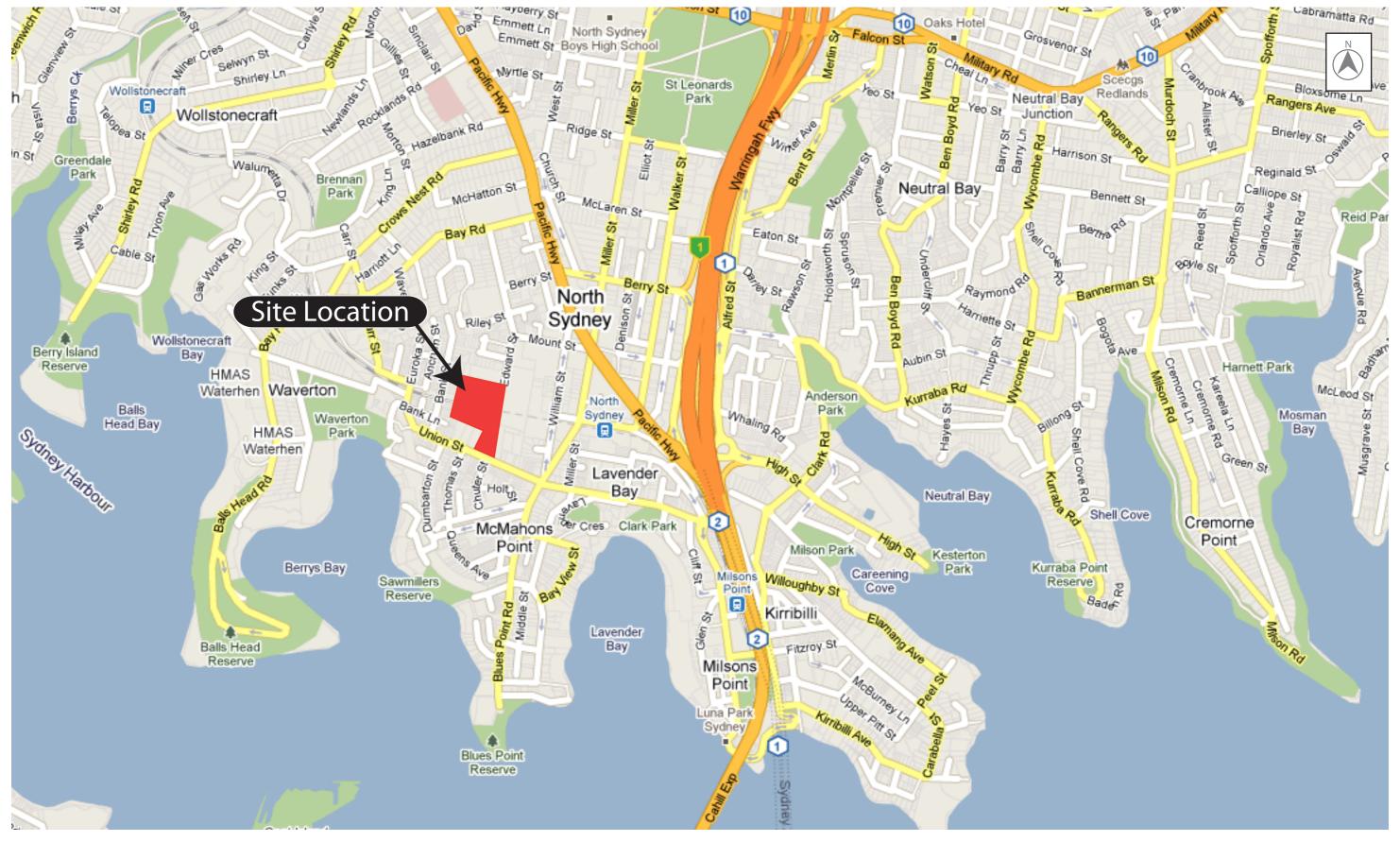
Attachment E – Limitations

Reviewed by,

Rebecca Kelly Project Manager

WSP Environmental Solutions

Attachment A – Figures



Site Location

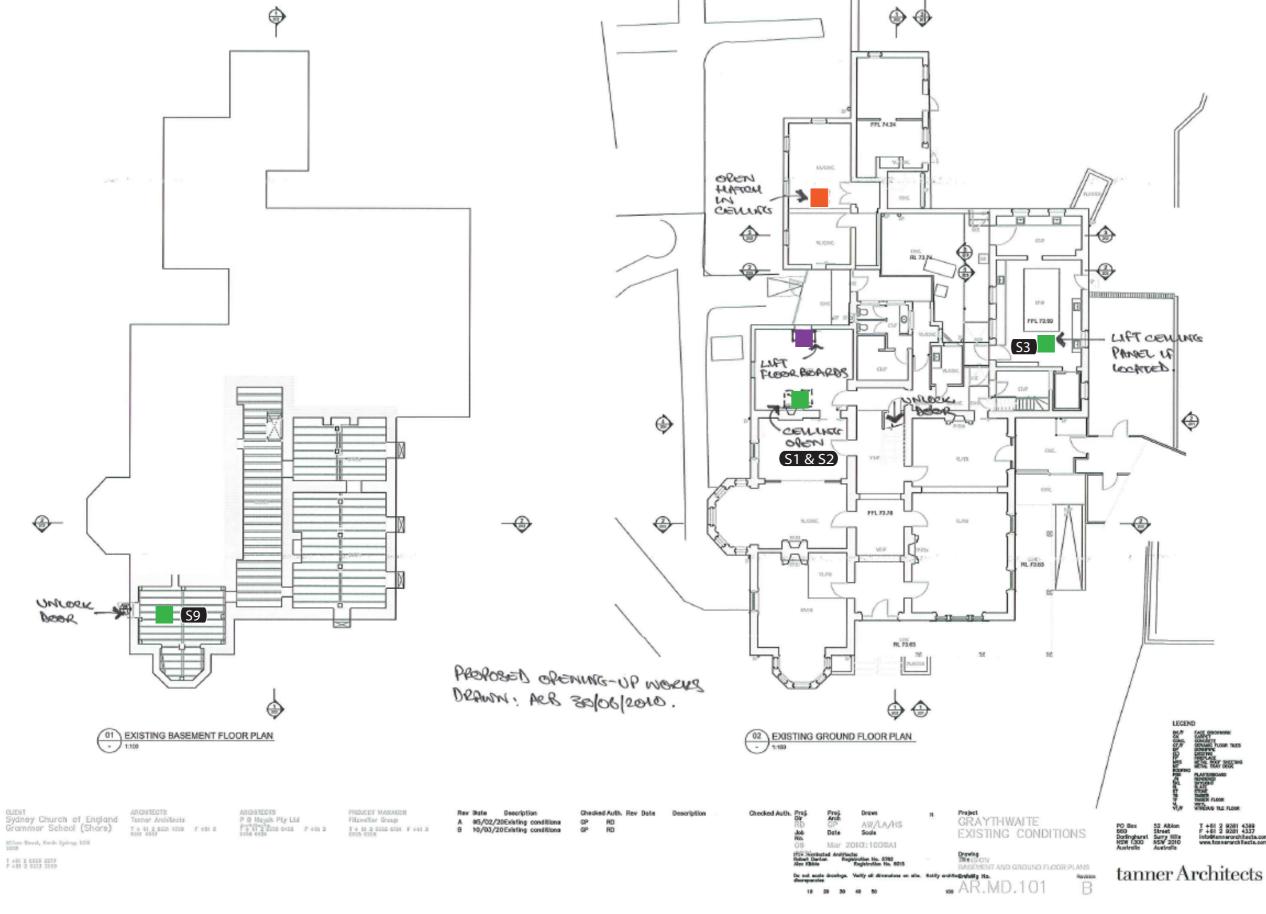
14 Edward Street, North Sydney, NSW

FIGURE 1

UNITED BY CUR DIFFERENCE WSP

Approximate Scale

0 400 Metres



Key

S9 Sampling Location

No Sample Collected - No Potential ACM

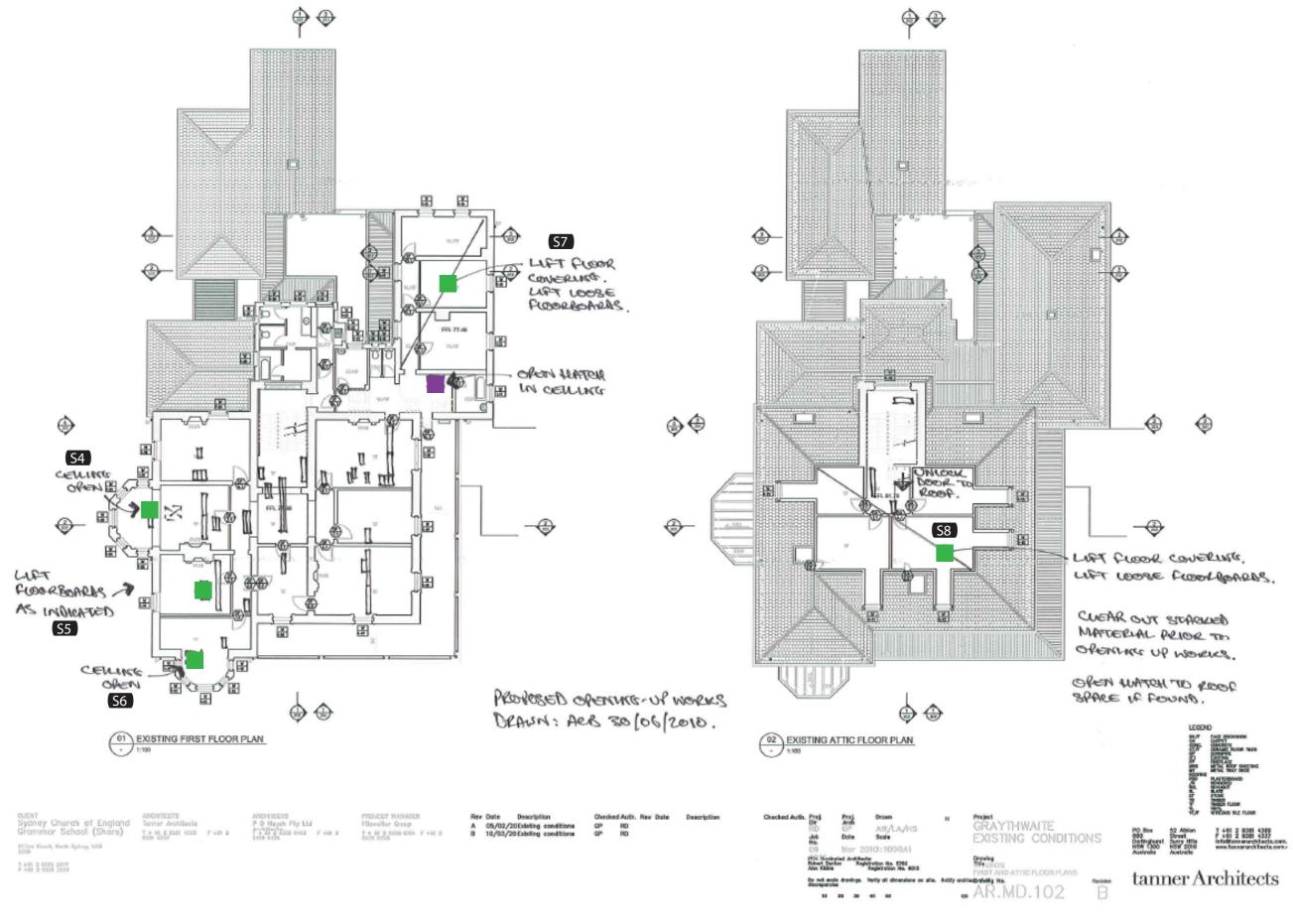
No Access due to Saftey Issue

Sampling Locations - Basement and Ground Floor

20 Edward Street, North Sydney, NSW







Key

S4 Sampling Location

No Sample Collected - No Potential ACM

Sampling Locations - First Floor and Attic

20 Edward Street, North Sydney, NSW

FIGURE 3



Attachment B – Asbestos Register

Attachment A
Asbestos Register

00003000 Page 1 of 3

Date: 9 & 15 September 2010

Assessed by: Alan Ly

Asbestos

Location and Description	Sample No.	Status	Condition	Risk Status	Recommendations
Ground Floor – Fourth room from most southwest room (next to outdoor/indoor section with plants) – Ceiling material	2	NAD	Fair	Medium	Remove or repair according to "Hazardous Materials Management Recommendations" of the report
Ground Floor - domestic services/cleaning room – Ceiling material	3	Asbestos Detected	Good	Low	Maintain in Good Condition, or where removal is required for refurbishment, remove in accordance with "Hazardous Materials Management Recommendations" of the report
Ground Floor - most northwest room	-	Potential Asbestos	Poor	Medium	Remove or repair according to "Hazardous Materials Management Recommendations" of the report
First Floor - 3rd room from the most southwest room	4	NAD	Fair	Medium	Remove or repair according to "Hazardous Materials Management Recommendations" of the report
First Floor - most southwest room	6	NAD	Fair	Medium	Remove or repair according to "Hazardous Materials Management Recommendations" of the report

00003000 Page 2 of 3

Asbestos REGISTER

20 Edward Street, North Sydney, NSW

Notes:

- 1. Positive samples have been highlighted in BOLD.
- 2. NAD No Asbestos Detected.
- 3. Risk status has been described as:

HIGH - materials that pose an elevated risk, are in a poor and friable condition with a high risk of fibres being dislodged from the material and which pose an immediate risk to people.

MEDIUM - materials which are damaged, pose a potential health risk to persons in their current state and are readily accessible. Careful removal and monitoring is recommended for these materials.

LOW – material is stable, non-friable. The material does not present a health risk unless disturbed by intrusive work such as drilling, cutting, breaking or sanding. Careful removal is required for these materials.

00003000 Page 3 of 3

Date: 9 & 15 September 2010

Assessed by: Alan Ly

Attachment C – Laboratory Report



Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 45889

Client:

WSP Environmental Level 1, 41 McLaren St North Sydney NSW 2060

Attention: Alan Ly

Sample log in details:

Your Reference: 3000 (15 Sept 2010)

No. of samples:9 MaterialsDate samples received:15/09/2010Date completed instructions received:15/09/2010

Analysis Details:

Please refer to the following pages for results and methodology summary.

Samples were analysed as received from the client. Results relate specifically to the samples as received. Note, even after disintegration it can be difficult to detect the presence of asbestos in some asbestos -containing bulk materials using PLM and dispersion staining. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Report Details:

Date results requested by: 22/09/10
Date of Preliminary Report: Not Issued Issue Date: 17/09/10

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Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with *.

Results Approved By:

Asbestos was analysed by Approved Identifier: Matt Mansfield Asbestos was authorised by Approved Signatory: Matt Mansfield

M. Mauffelf
Matt Mansfield
Approved Signatory



Envirolab Reference: 45889
Revision No: R 00

Client Reference: 3000 (15 Sept 2010)

Envirolab Ref: 	Sample ID:	Date analysed	Sample Description	Asbestos ID in materials
45889-1	S1	17/09/2010	86x82x5mm Brown fibre board	No asbestos detected
45889-2	S2	17/09/2010	129x88x6mm Brown fibre board	No asbestos detected
45889-3	S3	17/09/2010	0.48g Fibre cement	Chrysotile asbestos detected Amosite asbestos detected
45889-4	S4	17/09/2010	14.85g Plaster board	No asbestos detected
45889-5	S5	17/09/2010	4.72g Compressed cement	No asbestos detected
45889-6	S6	17/09/2010	29x25x14mm Compressed cement	No asbestos detected
45889-7	S7	17/09/2010	59x40x21mm Compressed cement	No asbestos detected
45889-8	S8	17/09/2010	43x26x12mm Compressed cement	No asbestos detected
45889-9	S9	17/09/2010	0.15g Fibrous material	No asbestos detected



Client Reference: 3000 (15 Sept 2010)

Method ID	Methodology Summary
AS4964-2004	Asbestos ID - Qualitative identification of asbestos type fibres in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques.



Envirolab Reference: 45889 Revision No: R 00

CHAIN OF CUSTODY - Client



ENVIROLAB SERVICES

Client: WSP Environmental Pty Ltd Client Project Name and Number:	Envirolab Services
Project Mgr: repecca : Velly @ uspgrup.com	12 Ashley St, Chatswood, NSW, 2067
Sampler: ALAN LY PO No.: 3	COO (15 Sept 2010)
Address: Lev 1, 41 McLaren St Envirolab Services Quote No. :	Phone: 02 9910 6200
North Sydney Date results required:	Fax: 02 9910 6201
Email: alan-ly@wspywwp.com Or choose: standard	E-mail: ahie@envirolabservices.com.au
Phone: 89256700 Fax: 89256799 Note: Inform labin advance if urgent turnaround surcharge applies	is required - Contact: Aileen Hie
Sample information	Tests Required Comments
Envirolab Sample ID Client Sample ID Date sampled Type of sample	Provide as much information about the sample as you can
(51 15/9/10 Knikling Material	
2 52 / / /	12 Ashley S 11 Chatswood NSW 206
3 53	Ph: 917// 02/4
4 54	10b No. 44589
5 55	15/9
6 36	rime received: 118
7 57	Received by: Y D M
8 S8 /	Goeting: Isa/109Press Becurity: Islant/Rehen/(GP)
9 59 1	
Relinquished by (company): USF Received by (company): EC Print Name: Print Name: Print Name:	
Date & Time: 15/9/10 1. 1 Date & Time: 16/9/1	
Signature: Signature:	Page No:

Form: 302 - Chain of Custody-Client, Issued 14/02/08, Version 3, Page 1 of 1.

Attachment D – Site Photos



PHOTOGRAPHIC LOG

Sydney Church of England Grammer School **Site Location**

20 Edward Street, North Sydney, New South Wales, Australia

Project No. 00003000

Photo No. Date

1 15 Sept 2010

Description

Ground Floor – fourth room from most southwest room (next to outdoor/ indoor section with plants) – Beneath floor board



 Photo No.
 Date

 2
 15 Sept 2010

Description

Basement area – fibre-cement sheeting panel adjacent to brick pylon and glass bottles on ground





PHOTOGRAPHIC LOG

Sydney Church of England Grammer School

Site Location

20 Edward Street, North Sydney, New South Wales, Australia

Project No. 00003000

Photo No. Date

3 14 Sept 2010

Description

First floor, 3rd room from most southwest room – plaster/timber material beneath floor board



Photo No. Date
4 9 Sept 2010

Description

First floor, 3rd room from most southwest room – ceiling material observed on floor





PHOTOGRAPHIC LOG

Sydney Church of England Grammer School **Site Location**20 Edward Street, North Sydney, New South Wales, Australia

Project No. 00003000

Photo No. Date
5 15 Sept 2010

Description

Ground floor – domestic services/cleaning room where S3 was collected



Photo No. Date
6 14 Sept 2010

Description

Ground floor – 4th room from most southwest room where samples S1 and S2 was collected



Attachment E – Limitations

The findings of this report are based on the Scope of Work described above. WSP Environmental (WSP) performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental auditing profession. Every effort has been made to locate and identify any hazardous materials or objects containing hazardous materials in the designated buildings. The survey was conducted without detailed or demolition plans, or on-site supervision.

Suspect samples of building materials were sampled and analysed for asbestos and lead where possible. The survey was conducted within working areas visited by the public and personnel and in accordance with OH&S standard procedure sampling in some areas was restricted.

The hazardous materials assessment did not attempt to locate all hazardous materials, but used a sample-based approach to provide verification of existing information regarding asbestos within the building. The survey consisted of a visual inspection and sampling process and only those materials that were physically accessible could be located and identified. Therefore it is possible that materials, which may be concealed within inaccessible areas/voids, may not have been located during the assessment. Such inaccessible areas fall into a number of categories.

- Those areas accessible only by dismantling equipment or performing minor localised demolition works;
- Service shafts, ducts etc., concealed within the building structure;
- Equipment, air conditioning ducts etc;
- Toilet area adjacent to Room 11 of the building due to the presence of a large number of bees associated with a bee hive on the external guttering of the building; and
- Inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works

Access to confined spaces and within the internal confines of any plant equipment was not possible including the external roof. Certain assumptions were able to be made during the inspection taking into consideration the age of the buildings and plant equipment.

Destructive surveying and sampling techniques were not employed to gain access to any areas. Therefore, during the course of any subsequent refurbishment works care should be exercised when entering any previously inaccessible areas and it is imperative that work cease pending further sampling if materials suspected of containing asbestos or unknown materials are encountered. WSP and the author take no responsibility for the hazardous nature of any asbestos or other contamination found in the buildings, within the soil, the sub surface or inaccessible areas of the buildings and associated facilities. WSP and the author take no responsibility for any hazardous material that may cause risk, or is causing risk, to human health.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.