

Ledbury Surveys Ltd

All Saints Church

Worcester

WR1 2HN

On behalf of All Saints Worcester



Refurbishment/Demolition Survey

All Saints Church
Worcester
WR1 2HN

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Final Report	14/1/20	C Turner

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1 Summary

Ledbury Surveys Ltd has undertaken a Targeted Refurbishment / Demolition survey at All Saints Church, Worcester, WR1 2HN

The survey was commissioned by Stella Power on behalf of All Saints Worcester. The purpose of this report is to address the potential for asbestos containing materials (ACMs) within the property to allow their safe removal prior to refurbishment or demolition works as part of the client's commitment to the Control of Asbestos Regulations (CAR) 2012.

Kate Jewitt (Lead Surveyor) of Ledbury Surveys Ltd undertook the survey at All Saints Church, Worcester, WR1 2HN on the 13 January 2020.

A detailed photographic record is included in Appendix C which shows all materials sampled and presumed to contain asbestos. A plan with the approximate location points is attached in Appendix E.

1.1 Asbestos Register

An asbestos register with all the survey findings can be found on page 3 of this report.

1.2 Test Results

5 samples were taken during the Asbestos targeted Refurbishment and Demolition survey on the 13 January 2020, 0 samples proved positive for asbestos content.

1.3 Presumed Materials

The organ is Presumed to have an asbestos insulation board lining to the blower box. The safes within the Ground Floor Tower Store are Presumed to contain an asbestos insulation board laminate. The older type electrics are Presumed to contain asbestos flashguards, ropes and seals. The above is described in Appendix A Inspection sheets, Appendix C Photo Record and Appendix E Site Plan.

1.4 Conclusions and Recommendations

The organ is Presumed to have an asbestos insulation board lining to the blower box. The safes within the Ground Floor Tower Store are Presumed to contain an asbestos insulation board laminate. The older type electrics are Presumed to contain asbestos flashguards, ropes and seals.

It is recommended that all asbestos containing materials are removed prior to refurbishment work. The asbestos containing materials identified are licensable and their removal can be undertaken by an unlicensed asbestos contractor.

It is recommended that the asbestos containing materials are labelled and monitored in accordance with CAR 2012 if they are to be left for more than 3 months.

It is recommended that any removal of ACMs is undertaken by a licensed contractor and disposed of as Hazardous Waste in accordance with the Hazardous Waste (England) Regulations 2005. All of the remaining ACMs should be labelled and monitored on a regular basis.

2 Asbestos Register

ASBESTOS REGISTER and MATERIAL and PRIORITY RISK ASSESSMENT (MRA and PRA)

The duty to manage under Regulation 4 of the CAR requires a written plan to be produced, specifying the measures to be taken to control and manage the risk from identified and presumed ACMs. An important stage of this process is to assess the potential for fibre release of each ACM found (MRA) and the prioritisation of that material for management purposes (PRA). A standard assessment approach suitable for Management Surveys is given below based on a simplified additive algorithm in HSG264 (Asbestos: The Survey Guide) and HSG227, but for a Refurbishment or Demolition Survey (Type 3) no assessment is necessary.

For management purposes a RISK RATING (MRA + PRA) of less than 9 presents a VERY LOW RISK, between 10 and 13 a LOW RISK and from 14 to 17 a MEDIUM RISK which should be reviewed by the person in charge of building maintenance and actioned if necessary. Scores of 18 and above (asbestos associated with a HIGH RISK) need to be immediately actioned or areas where the surveyor has recommended immediate actions to be undertaken. *Work should be Risk Assessed (RA) prior to being disturbed as material in poor condition or in large quantities, or the working practice, may necessitate the use of Licensed Contractors.

Location	Description	Product type	Damage or deterioration	Surface Treatment	Asbestos Type	Sample Ref	Qty Approx	Cat * Work	MRA TOTAL	PRA TOTAL	RISK RATING	Worksheet No	Recomm
Ground Floor. Organ	Insulation Board to Blower Box	Insulation Board	Good Condition	Enclosed	Crocidolite	Presumed	2 No	UW	6	3	9 Very Low	1	. Remove and Dispose of as ACM whole prior to Refurbishment works.If left for more than 3 months, Label & Monitor in accordance with CAR 2012
Ground Floor. Tower Store	Insulation Board laminate to Safes	Insulation Board	Good Condition	Enclosed	Crocidolite	Presumed	2 No	UW	6	3	9 Very Low	2	. Remove and Dispose of as ACM whole prior to Refurbishment works.If left for more than 3 months, Label & Monitor in accordance with CAR 2012
Ground Floor Tower	Flashguards, ropes and seals to Electrics	Textiles	Good Condition	Enclosed	Chrysotile	Presumed	All	UW	4	3	7 Very Low	3	Remove and Dispose of as ACM whole prior to Refurbishment works.If left for more than 3 months, Label & Monitor in accordance with CAR 2012

All quantities are estimated by the surveyors and should be measured accurately for contract and tender purposes. *Category of work is UW (Unlicensed Work) NNLW (Notifiable Non Licensed Work) or LW (Licensed Work) * Please contact the surveyor for advice on Category of Work as the RA or MS could alter the Classification

3 Introduction

3.1 General

The survey was commissioned by Stella Power on behalf of All Saints Worcester. The purpose of this report is to identify all ACMs prior to the refurbishment of All Saints Church, Worcester, WR1 2HN in accordance with CAR 2012.

Kate Jewitt (Lead Surveyor) of Ledbury Surveys Ltd undertook the survey on the 13 January 2020.

3.2 Legislation

The Control of Asbestos Regulations (CAR) 2012 requires 'Duty Holders' to manage asbestos in buildings and to provide adequate data through surveys and an asbestos management plan (AMP). Relevant data, including this survey report, should be made available to contractors working at the site and cascaded down to employees who might come into contact with the material. In order to allow work to be undertaken it is essential that this survey identifies (as far as reasonably practicable) those areas of the building that house asbestos containing material.

CAR makes reference to MDHS100 (surveying, sampling and assessment of asbestos containing materials) and also the expanded HSG264 (Asbestos: The survey guide) which is to fall under the scope of CAR 2012 also. The document describes the two types of asbestos survey work that can be carried out. An extract from HSG264 (Asbestos: The survey guide) in Appendix D describes these surveys in more detail.

A Refurbishment / Demolition asbestos survey has been undertaken and the technique used is outlined in the Approved Codes of Practice (ACoPs), L143, HSG264 and CAR 2012. This report will describe the work carried out and document the results to enable the asbestos risk in the building to be managed in accordance with the appropriate Health and Safety and CAR 2012 legislation

The survey will aim to identify suspect material, confirm by testing and presume by inspection those areas of asbestos containing material (ACM). These areas can then be dealt with in the appropriate manner, without contaminating the building or exposing subcontractors, employees or members of the public to unnecessary risk.

3.3 Asbestos surveyors

CAR 2012, HSG264 and the associated ACoPs refer to asbestos surveys being carried out by “competent persons” with experience, training and suitable qualifications. Our lead surveyor is experienced in asbestos work and is a competent person as described under the revised legislation.

3.4 Training

Only trained and competent surveyors carried out the asbestos survey work. The minimum requirement is for the successful completion of British Institute of Occupational Hygienists Modules of P402: Building Surveys and Bulk Sampling For Asbestos and P405: Management of Asbestos in Buildings, in addition the lead surveyor will have a minimum five years relevant experience as recommended by the Health and Safety Executive (HSE).

4 Purpose of the Report

4.1 Scope

This report is a description of a Refurbishment / Demolition asbestos survey undertaken at All Saints Church, Worcester, WR1 2HN. The purpose of which is to determine the nature and extent of any asbestos containing materials (ACMs) that require removal prior to undertaking refurbishment works.

4.2 Limitations of the report

This report is based on the information that has been made available to us from the client regarding site operations. The conclusions drawn in the report are considered correct although any subsequent additional information may allow refinement of the conclusions. It should be noted that:

- The report has been prepared under the express instructions of Stella Power on behalf of All Saints Worcester.
- The findings of this report represent the professional opinion of experienced asbestos surveyors and is produced in accordance with the Health and Safety (HSE) Guidance HSG264 Asbestos: The survey guide. Ledbury Surveys Ltd does not provide legal advice and the advice of lawyers may also be required.
- All work carried out in preparing this report has utilised and is based upon Ledbury

Surveys Ltd's professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and cause any conclusions to become inappropriate or incorrect. Ledbury Surveys Ltd does not accept responsibility for advising Stella Power on behalf of All Saints Worcester or other parties of the facts or implications of any such changes.

- It is stressed that while every effort was made to identify the locations and full extent of all asbestos materials in the specified area, such material may be located within the structural matrix of the building or in other inaccessible areas. Responsibility can only be accepted for these materials sampled. If asbestos materials have been suspected but not sampled, this has been highlighted in the report.
- The report is limited to the areas as identified on site by Stella Power on behalf of All Saints Worcester
- All samples were analysed by Athena Environmental Solutions Ltd, Suite 3 Sopwith House, Hurricane Sway, Wickford, Essex, SS11 8YU; **UKAS No-4696**
- The report should be read in its entirety, and if reproduced must be a full colour copy
- Abbreviations may be used throughout the report and its appendices. A Glossary of Terms is included in Appendix D for reference purposes.

5 Site Description

5.1 Current Site Conditions

All Saints Church, Worcester, WR1 2HN was surveyed on the 13 January 2020. The inspection was undertaken solely on the areas identified by Stella Power on behalf of All Saints Worcester.

All Saints Church

The building was found to be a stone church with a pitched tiled roof. Internally the walls were found to be solid plastered and the ceilings to be plastered, the floors were found to have a mixture of quarry floor tiles, parquet flooring with proven non ACM bitumen and stone tiles on a solid floor. No suspect ACMs were found surrounding the pews to be replaced, the panels to be re fixed and the font and bible stand to be removed and relocated. The organ is Presumed to contain asbestos insulation board within the blower box. No access was gained within the Organ. No access was gained to the board to the light fittings within the Nave due to height. The Tower was found to have two Presumed asbestos containing safes within the Store. The safes are Presumed to contain an asbestos insulation board laminate within. The older type electrics within the Ground Floor Tower are Presumed to contain asbestos flashguards, ropes and seals. No access was gained within the Tower excluding the Ground Floor.

The Boiler Room was found to have a modern non ACM boiler, non ACM MMMF foil wrapped lagging to the pipes and proven non ACM debris to the walls.

The Gas Store was found to have a proven non ACM cement pipe sleeve. No access was gained within the Gas Store.

The Portacabins were found to be of a modern non ACM construction with a modern n on ACM kitchen suite, proven non ACM vinyl floor tiles and adhesive and modern non ACM toilet suites.

5.2 Photographs

A photographic record is included in Appendix C and shows general arrangement and construction detail of all of the areas of the building surveyed. They also provide a detailed record of the survey work that has taken place, including the areas investigated.

5.3 Site Plans

A plan of the building showing the sample location points and location of presumed items is included in Appendix E.

6 Description of Survey

6.1 Sampling Strategy

Sampling was not carried out where it would have caused unreasonable damage to the building's fabric or where it would be unsafe to do so. In some cases asbestos materials have been identified without sampling.

All sampling was undertaken in accordance with the guidelines produced in HSG264. The samples were double bagged, labelled and submitted to the laboratory as bulk samples. No accessible areas were excluded during the survey.

6.2 Areas surveyed and sampled

5 samples were taken during the Asbestos targeted Refurbishment and Demolition survey on the 13 January 2020, **0** samples proved positive for asbestos content.

In areas where sampling was not possible or practical, materials are either presumed or strongly presumed in accordance with HSG264. They have been detailed in the worksheets in Appendix A and included with the Asbestos Register in Section 2.

6.3 Areas not accessed

No access was gained within the Tower above the Ground Floor

No access was gained within the Gas Store. No access was gained to the board to the light fittings within the Nave due to height.

No ground investigation has been undertaken as it is proposed to undertake this as part of a general site investigation to include ground contamination. No drainage inspection works have been undertaken as this is to be undertaken as part of the site drainage strategy.

7 Analytical Results

7.1 Introduction

All testing was undertaken in accordance with MDHS77 *Asbestos in Bulk Materials*. 'Sampling and identification of polarised light microscopy (PLM)'. The certificates of analysis are included in Appendix B of this report. The material identifications and content are summarised below:

- Crocidolite (Blue Asbestos)
- Amosite (Brown Asbestos)
- Chrysotile (White Asbestos)

7.2 Asbestos Containing Materials

5 samples were taken during the Asbestos targeted Refurbishment and Demolition survey on the 13 January 2020, 0 samples proved positive for asbestos content.

7.3 Presumed asbestos

The organ is Presumed to have an asbestos insulation board lining to the blower box. The safes within the Ground Floor Tower Store are Presumed to contain an asbestos insulation board laminate. The older type electrics are Presumed to contain asbestos flashguards, ropes and seals. The above is described in Appendix A Inspection sheets, Appendix C Photo Record and Appendix E Site Plan.

7.4 Risk Assessment

Material risk assessments in the form of Worksheets for the identified ACMs are attached in Appendix A.

7.5 Conclusions and Recommendations.

The organ is Presumed to have an asbestos insulation board lining to the blower box. The safes within the Ground Floor Tower Store are Presumed to contain an asbestos insulation board laminate. The older type electrics are Presumed to contain asbestos flashguards, ropes and seals.

It is recommended that all asbestos containing materials are removed prior to refurbishment work. The asbestos containing materials identified are licensable and their removal can be undertaken by an unlicensed asbestos contractor.

It is recommended that the asbestos containing materials are labelled and monitored in accordance with CAR 2012 if they are to be left for more than 3 months.

It is recommended that any removal of ACMs is undertaken by a licensed contractor and disposed of as Hazardous Waste in accordance with the Hazardous Waste (England) Regulations 2005. All of the remaining ACMs should be labelled and monitored on a regular basis.

7.6 Identified ACMs

Areas where ACMs have been identified as presumed materials are noted within Appendix A - Inspection Sheets, Appendix C - Photographic Record and Asbestos Register in Section 2.

7.7 Asbestos removal.

The materials identified are unlicensable and their removal can be undertaken by an unlicensed asbestos contractor. However it is recommended that any removal of ACMs is undertaken by a licensed contractor and disposed of as Hazardous Waste in accordance with the Hazardous Waste (England) Regulations 2005.

The Contractor will however need to undertake risk assessments to undertake the works and may be required to notify the works as notifiable unlicensed works to the HSE.

All quantities relating to the ACMs identified on site have been estimated or loosely measured. There should be sufficient data and photographic evidence contained in the worksheets and register to satisfy the main contractor regarding materials involved. However the amounts may need to be checked by the appointed demolition manager who will carry out an audit against the billed detail.

7.8 Hazardous waste

Any materials containing asbestos that are removed from the site will need to be treated as Hazardous Waste (England) Regulations 2005. Licensed carriers are required to transport the materials and waste transfer notes should be obtained for the site file.

7.9 Dissemination of the report

A copy of this report should supplement any documented asbestos record that may be available for the buildings surveyed and it must be referenced to any subcontractor working on the site. In the event of a contractor carrying out major works, including refurbishment, demolition etc, a copy should be included in the site file, where it will influence Health and Safety practice.


The report should also be registered with other appropriate persons including the Duty Holder, Health and Safety Representatives and the Principal Designer and Principal Contractor.

All information given in this report is for general guidance only and application of this asbestos survey is best carried out by discussion with the Surveyors, Duty Holders and Management Team associated with the property.

A Inspection Sheets


Location	All Saints Church	Inspection Date	13th January 2020
Building Name and Address	Worcester, WR1 2HN	Surveyor	K Jewitt

Risk Assessment Sheets

Worksheet Number	1					
Floor/Room	Ground					
Room /Area	Organ					
Description	Insulation Board to Blower Box					
Sample No	Presumed					
Asbestos Type	Crocidolite					
Lab Reference	-					
Date of Next Inspection	13 th January 2020					
Priority Risk Assessment						
Normal occupant activity/ Likelihood of disturbance						
Normal occupant activity	0 1 2 3	Rare disturbance Low disturbance activities Periodic disturbance High levels of disturbance)	Accessibility	0 1 2 3	Usually inaccessible or unlikely to be disturbed Occasionally likely to be disturbed Easily disturbed Routinely disturbed	
Likelihood of disturbance	0 1 2 3	Outdoors Large rooms or well ventilated areas Rooms up to 10m ² Confined spaces	Extent/ Amount	0 1 2 3	Small amounts or items (e.g. strings gaskets) Less than 10m ² or 10lin/m pipe run Between 10m ² & 50m ² or 10lin/m or 50 lin/m pipe run More than 50m ² or 50lin/m of pipe run	
Human exposure potential			Maintenance activity			
Number of occupants	0 1 2 3	0 1 2 3	Type of maintenance activity	0 1 2 3	0 1 2 3	Minor disturbance (e.g. possibility of contact when gaining access) Low disturbance (e.g. changing light bulb in AIB ceiling) Medium disturbance (e.g. lifting one/two AIB tiles to replace a valve or to re-cable) High levels of disturbance (e.g. removing several AIB tiles to replace valve/cablings)
Frequency of use	0 1 2 3	0 1 2 3	Frequency of maintenance activity	0 1 2 3	0 1 2 3	ACM unlikely to be disturbed in maintenance Less than once per year More than once per year More than once per month
Average time each use	0 1 2 3	0 1 2 3	Total PRA Score		3	
Material Risk Assessment						
Product type or debris from product	1 2 3	Asbestos – reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints, or decorative finishes, asbestos cement etc.) Asbestos insulation board, asbestos millboard, other low-density insulation boards, asbestos textiles, gaskets, ropes, and woven textiles, asbestos paper and felt Thermal insulation (e.g. pipe and boiler lagging) loose and sprayed asbestos, asbestos mattresses and packing				
Extent of damage or deterioration	0 1 2 3	Good condition – no visible damage Low damage – a few scratches or surface marks; broken edges on boards, tiles etc. Medium damage; significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres. High damage or delamination of materials, sprays and thermal insulation, Visible debris.				
Surface treatment	0 1 2 3	Composite materials containing asbestos, reinforced plastics, plasters, resins, vinyl tiles Enclosed sprays and lagging, AIB with exposed face painted or encapsulated) AC sheets Unsealed AIB, or encapsulated lagging sprays Unsealed sprays/ lagging/ textile				
Asbestos type	1 2 3	Chrysotile Amphibole asbestos excluding crocidolite Crocidolite				
Total MRA Score	6		Materials with assessment scores of 10 and more are regarded as having a high potential to release fibres if disturbed. Scores of between 7 & 9 have a medium potential and between 5 & 6 low potential. Scores of 4 or less have a very low potential Material risk assessment scores are in RED			
Management Score						
MRA + PRA	SCORE		For management purposes a RISK RATING (MRA + PRA) of less than 9 presents a VERY LOW RISK, between 10 and 13 a LOW RISK and from 14 to 17 a MEDIUM RISK 18 + HIGH RISK			
6 + 3	9 Very Low					
Recommendations:	Remove and dispose of whole as hazardous waste prior to refurbishment works. If left for more then 3 months, Label and monitor in accordance with CAR2012					


Location	All Saints Church	Inspection Date	13th January 2020
Building Name and Address	Worcester, WR1 2HN	Surveyor	K Jewitt

Risk Assessment Sheets

Worksheet Number	2						
Floor/Room	Ground						
Room /Area	Tower Store						
Description	Insulation Board Laminate to Safes						
Sample No	Presumed						
Asbestos Type	Crocidolite						
Lab Reference	-						
Date of Next Inspection	13th January 2020						
Priority Risk Assessment							
Normal occupant activity/ Likelihood of disturbance							
Normal occupant activity	0 1 2 3	Rare disturbance Low disturbance activities Periodic disturbance High levels of disturbance)	Accessibility	0 1 2 3	Usually inaccessible or unlikely to be disturbed Occasionally likely to be disturbed Easily disturbed Routinely disturbed	0 1	
Likelihood of disturbance	0 1 2 3	Outdoors Large rooms or well ventilated areas Rooms up to 10m ² Confined spaces	Extent/ Amount	0 1 2 3	Small amounts or items (e.g. strings gaskets) Less than 10m ² or 10lin/m pipe run Between 10m ² & 50m ² or 10lin/m or 50 lin/m pipe run More than 50m ² or 50lin/m of pipe run	1 2 3	
Human exposure potential			Maintenance activity				
Number of occupants	0 1 2 3	0 1 2 3	None 1 – 3 persons 4 – 10 persons Greater than 10 persons	Type of maintenance activity	0 1 2 3	0 1 2 3	Minor disturbance (e.g. possibility of contact when gaining access) Low disturbance (e.g. changing light bulb in AIB ceiling) Medium disturbance (e.g. lifting one/two AIB tiles to replace a valve or to re-cable) High levels of disturbance (e.g. removing several AIB tiles to replace valve/cabling)
Frequency of use	0 1 2 3	0 1 2 3	Infrequent Monthly Weekly Daily	Frequency of maintenance activity	0 1 2 3	0 1 2 3	ACM unlikely to be disturbed in maintenance Less than once per year More than once per year More than once per month
Average time each use	0 1 2 3	0 1 2 3	≤ 1hr ≤ 1hr to ≤ 3hrs ≥3hrs to ≤ 6hrs ≥6hrs	Total PRA Score		3	
Material Risk Assessment							
Product type or debris from product	1 2 3	1 2 3	Asbestos – reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints, or decorative finishes, asbestos cement etc.) Asbestos insulation board, asbestos millboard, other low-density insulation boards, asbestos textiles, gaskets, ropes, and woven textiles, asbestos paper and felt Thermal insulation (e.g. pipe and boiler lagging) loose and sprayed asbestos, asbestos mattresses and packing				
Extent of damage or deterioration	0 1 2 3	0 1 2 3	Good condition – no visible damage Low damage – a few scratches or surface marks; broken edges on boards, tiles etc. Medium damage; significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres. High damage or delamination of materials, sprays and thermal insulation, Visible debris.				
Surface treatment	0 1 2 3	0 1 2 3	Composite materials containing asbestos, reinforced plastics, plasters, resins, vinyl tiles Enclosed sprays and lagging, AIB with exposed face painted or encapsulated) AC sheets Unsealed AIB, or encapsulated lagging sprays Unsealed sprays/ lagging/ textile				
Asbestos type	1 2 3	1 2 3	Chrysotile Amphibole asbestos excluding crocidolite Crocidolite				
Total MRA Score	6		Materials with assessment scores of 10 and more are regarded as having a high potential to release fibres if disturbed. Scores of between 7 & 9 have a medium potential and between 5 & 6 low potential. Scores of 4 or less have a very low potential Material risk assessment scores are in RED				
Management Score							
MRA + PRA	SCORE		For management purposes a RISK RATING (MRA + PRA) of less than 9 presents a VERY LOW RISK, between 10 and 13 a LOW RISK and from 14 to 17 a MEDIUM RISK 18 + HIGH RISK				
6 + 3	9 Very Low						
Recommendations:	Remove and dispose of whole as hazardous waste prior to refurbishment works. If left for more then 3 months, Label and monitor in accordance with CAR2012						

Location	All Saints Church	Inspection Date	13th January 2020
Building Name and Address	Worcester, WR1 2HN	Surveyor	K Jewitt

Risk Assessment Sheets

Worksheet Number	3						
Floor/Room	Ground						
Room /Area	Garage Office/ Store						
Description	Flashguards, Ropes and Seals to Electrics						
Sample No	Presumed						
Asbestos Type	Chrysotile						
Lab Reference	-						
Date of Next Inspection	13th January 2020						
Priority Risk Assessment							
Normal occupant activity/ Likelihood of disturbance							
Normal occupant activity	0 1 2 3	Rare disturbance Low disturbance activities Periodic disturbance High levels of disturbance)	Accessibility	0 1 2 3	Usually inaccessible or unlikely to be disturbed Occasionally likely to be disturbed Easily disturbed Routinely disturbed	0 1	
Likelihood of disturbance	0 1 2 3	Outdoors Large rooms or well ventilated areas Rooms up to 10m ² Confined spaces	Extent/ Amount	0 1 2 3	Small amounts or items (e.g. strings gaskets) Less than 10m ² or 10lin/m pipe run Between 10m ² & 50m ² or 10lin/m or 50 lin/m pipe run More than 50m ² or 50lin/m of pipe run	1 2 3	
Human exposure potential			Maintenance activity				
Number of occupants	0 1 2 3	0 1	None 1 – 3 persons 4 – 10 persons Greater than 10 persons	Type of maintenance activity	0 1 2 3	0 1 2 3	Minor disturbance (e.g. possibility of contact when gaining access) Low disturbance (e.g. changing light bulb in AIB ceiling) Medium disturbance (e.g. lifting one/two AIB tiles to replace a valve or to re-cable) High levels of disturbance (e.g. removing several AIB tiles to replace valve/cablings)
Frequency of use	0 1 2 3	2 3	Infrequent Monthly Weekly Daily	Frequency of maintenance activity	0 1 2 3	0 1 2 3	ACM unlikely to be disturbed in maintenance Less than once per year More than once per year More than once per month
Average time each use	0 1 2 3	3	≤ 1hr ≤ 1hr to ≤ 3hrs ≥ 3hrs to ≤ 6hrs ≥ 6hrs	Total PRA Score		3	
Material Risk Assessment							
Product type or debris from product	1 2 3	2	Asbestos – reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints, or decorative finishes, asbestos cement etc.) Asbestos insulation board, asbestos millboard, other low-density insulation boards, asbestos textiles, gaskets, ropes, and woven textiles, asbestos paper and felt Thermal insulation (e.g. pipe and boiler lagging) loose and sprayed asbestos, asbestos mattresses and packing				
Extent of damage or deterioration	0 1 2 3	0	Good condition – no visible damage Low damage – a few scratches or surface marks; broken edges on boards, tiles etc. Medium damage; significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres. High damage or delamination of materials, sprays and thermal insulation, Visible debris.				
Surface treatment	0 1 2 3	1	Composite materials containing asbestos, reinforced plastics, plasters, resins, vinyl tiles Enclosed sprays and lagging, AIB with exposed face painted or encapsulated) AC sheets Unsealed AIB, or encapsulated lagging sprays Unsealed sprays/ lagging/ textile				
Asbestos type	1 2 3	1	Chrysotile Amphibole asbestos excluding crocidolite Crocidolite				
Total MRA Score	4		Materials with assessment scores of 10 and more are regarded as having a high potential to release fibres if disturbed. Scores of between 7 & 9 have a medium potential and between 5 & 6 low potential. Scores of 4 or less have a very low potential Material risk assessment scores are in RED				
Management Score							
MRA + PRA	SCORE	For management purposes a RISK RATING (MRA + PRA) of less than 9 presents a VERY LOW RISK, between 10 and 13 a LOW RISK and from 14 to 17 a MEDIUM RISK 18 + HIGH RISK					
4 + 3	7 Very Low						
Recommendations:	Remove and dispose of whole as hazardous waste prior to refurbishment works. If left for more then 3 months, Label and monitor in accordance with CAR2012						

B

Test Results



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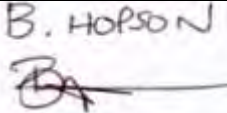
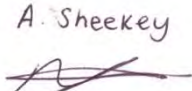
ATHENA ENVIRONMENTAL SOLUTIONS LTD
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 Email: info@athena-env.co.uk



COMPANY REG NUMBER: 07376951
 REGISTERED ADDRESS: AS ABOVE

4696

CERTIFICATE OF IDENTIFICATION OF ASBESTOS FIBRES

CERTIFICATE NUMBER: ATH/20/01/0249 DATE SAMPLED: 13/01/20 DATE RECEIVED: 14/01/20 DATE ANALYSED: 14/01/20 DATE ISSUED: 14/01/20 SAMPLES OBTAINED BY: DELIVERED NUMBER OF SAMPLES: 5	SITE ADDRESS: ALL SAINTS CHURCH, WORCESTER, WR1 2EX SITE REFERENCE: N/A		
	CLIENT: LEDBURY SURVEYS CLIENT ADDRESS: 2A GERALDINE ROAD, MALVERN, WR14 3PA PHONE NUMBER: 07738246916		
ANALYST NAME & SIGNATURE:		AUTHORISER NAME & SIGNATURE:	
COMMENTS:			

RESULTS

SAMPLE NUMBER	CLIENT NUMBER	SAMPLE LOCATION	FIBRE TYPE DETECTED	COMMENTS
1	ASC/1	DEBRIS BELOW FLOORING	NADIS	DEBRIS
2	ASC/2	BITUMEN TO PARQUET FLOORING	NADIS	BITUMEN
3	ASC/3	CEMENT PIPE	NADIS	COMPOSITE
4	ASC/4	VINYL FLOOR TILES AND ADHESIVE	NADIS	VINYL TILE
5	ASC/5	DEBRIS TO BOILER ROOM WALLS	NADIS	DEBRIS

KEY: CHRYSOTILE (WHITE ASBESTOS) - CROCIDOLITE (BLUE ASBESTOS) – AMOSITE (BROWN ASBESTOS)
NADIS (NO ASBESTOS DETECTED IN SAMPLE) - TREMOLITE, ANTHOPHYLLITE & ACTINOLITE (LESS COMMON ASBESTOS FIBRE TYPES)

- Note: When a trace of asbestos fibres are reported this represents only one or two fibres identified during PLM analysis.
- Note: The material type reported is an opinion of the analyst only and does not form part of the ATHENA UKAS accreditation.
- Note: Samples will be kept for a minimum of 6 months.
- Note: This Certificate of Identification of Asbestos Fibres can only be reproduced in full unless written approval from Athena has been obtained.
- Note: If the sample condition or size is deemed unacceptable or unsatisfactory by the analyst, the client will be contacted.
- Note: The results relate only to the items tested.
- Note: All samples are analysed at the Athena Laboratory, Suite 3 Sopwith House, Sopwith Crescent, Wickford, Essex, SS11 8YU

Samples have been analysed to determine the presence of asbestos fibres using Athena Environmental Solutions "in house" method of polarised light microscopy and central stop dispersion staining based on HSG 248. The site address and sample locations are given by the client and Athena are not responsible for the accuracy or competence of these details or of the sampling

C

Photographic Record

Targeted RDS All Saints Church, Worcester, WR1 2HN



General external view



Stone walls



Porch



Tower no access above Ground Floor



Rear elevation



Stone walls



Access to Boiler Room



Tower

Targeted RDS All Saints Church, Worcester, WR1 2HN



Toilets within Portacabin



Kitchen within Portacabin



Nave



Pews to be removed



Quarry floor tiles



Debris to floor
ASC/1
NADIS



Pews to be removed



No Access to check boards to light fitting due to height

Targeted RDS All Saints Church, Worcester, WR1 2HN



Timber to be removed



Bitumen adhesive to parquet flooring
ASC/2
NADIS



Pews to be removed



Parquet flooring



Pews to be removed



Timber board



Non ACM radiator



Timber to be removed

Targeted RDS All Saints Church, Worcester, WR1 2HN



Quarry floor tiles



Pews to be removed



Parquet flooring



Slipped panels to be re fixed



Stone and timber behind. No suspect ACMs



Organ. No access within



Presumed asbestos insulation board to
blower box
Crocidolite



Stone Font and base to be removed and
relocated. No suspect ACMs

Targeted RDS All Saints Church, Worcester, WR1 2HN



Stone base to Font



Non ACM radiator



Cast pipes



Timber panels to walls



Timber panels to walls and solid column



Timber panels to walls



Cast pipes



Stone font with timber lid

Targeted RDS All Saints Church, Worcester, WR1 2HN



Stone font



Timber doors to Porch



Cast pipes extending down through floor



Timber panels to walls



Stone behind



Timber panels to walls



Stone behind



Timber panels to walls

Targeted RDS All Saints Church, Worcester, WR1 2HN



Stone behind



Stone base to Pulpit



Timber Pulpit



Non ACM cast radiator



No suspect ACMs behind



Pews



Alter



Stone floor

Targeted RDS All Saints Church, Worcester, WR1 2HN



Pews



Parquet flooring



Alter



Solid walls



Plaster on solid walls



Plaster to be repaired



Stone floor



Organ. No access within

Targeted RDS All Saints Church, Worcester, WR1 2HN



Modern non ACM electricis



Presumed asbestos insulation board to organ
blower box
Crocidolite



Quarry floor tiles



Solid floor below



Cast pipes below floor grid



Bible and case to be removed and relocated



Timber construction



Timber to underside of case

Targeted RDS All Saints Church, Worcester, WR1 2HN



Carpet to floor



Parquet flooring below



Ground Floor Tower



Timber ceiling



Quarry floor tiles



Carpet to floor



Parquet flooring below



Modern non ACM electrics to left hand side

Targeted RDS All Saints Church, Worcester, WR1 2HN



Presumed asbestos flashguards, ropes and seals to older type electrics
Chrysotile



Cupboard



Timber construction



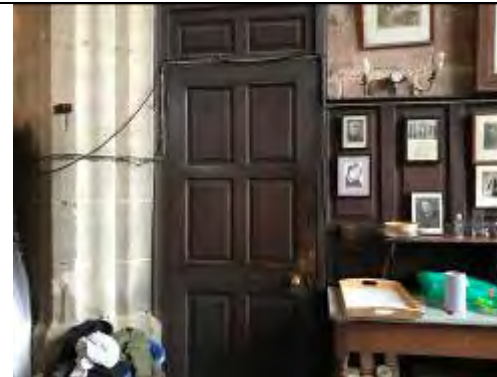
Cleaners Cupboard



Stone floor



Plastered ceiling



Timber door to Store



Presumed asbestos insulation board laminate to safes
Crocidolite

Targeted RDS All Saints Church, Worcester, WR1 2HN



Stone ceiling



Stone floor



No Access to Tower. Not included in scope of works



Gas House



Cement pipe sleeve
ASC/3
NADIS



Portacabin



Kitchen



Non ACM boards to ceiling

Targeted RDS All Saints Church, Worcester, WR1 2HN



Vinyl floor tiles and adhesive
ASC/4
NADIS



Modern non ACM kitchen suite



Modern non ACM electrics



Modern non ACM electric fire



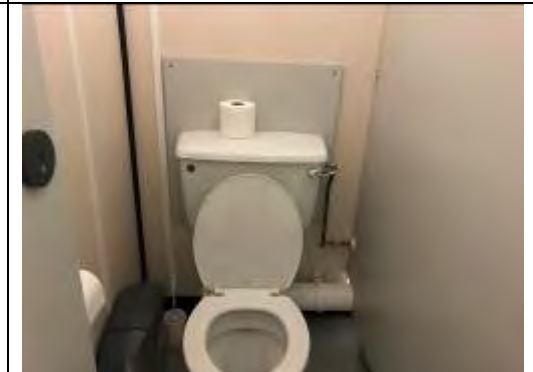
WCs



Ladies WC



Modern non ACM boards to ceiling



Modern non ACM toilet suite

Targeted RDS All Saints Church, Worcester, WR1 2HN



Plastic soil pipe



Modern non ACM toilet suite



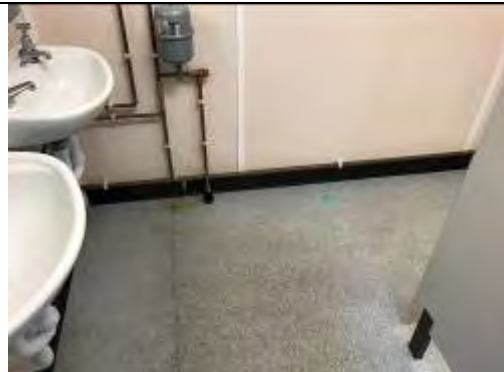
Modern non ACM toilet suite



Modern non ACM flooring and skirting



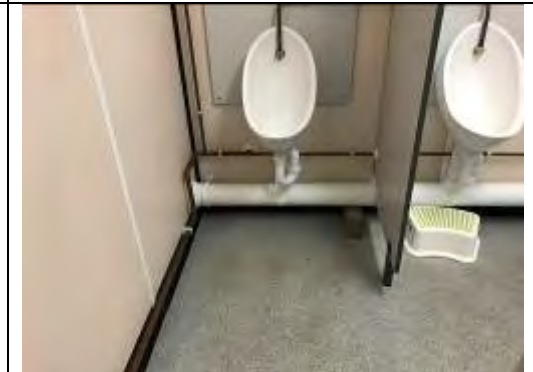
Gents WC



Modern non ACM flooring and skirting



Modern non ACM water heater



Urinals

Targeted RDS All Saints Church, Worcester, WR1 2HN



Modern non ACM toilet cistern



Urinal



Modern non ACM toilet suite



Modern non ACM boards to ceiling



Disabled WC



Modern non ACM toilet suite and flooring



Modern non ACM lining to walls and ceiling



Modern non ACM electrics

Targeted RDS All Saints Church, Worcester, WR1 2HN



Access to Boiler Room



Boiler Room



Debris to walls
ASC/5
NADIS



Modern non ACM boiler



Modern non ACM MMMF foil wrapped pipe lagging



No debris to pipes



Modern non ACM MMMF foil wrapped pipe lagging



No debris to pipe

Targeted RDS All Saints Church, Worcester, WR1 2HN



Debris to walls
ASC/5
NADIS



Debris to walls
ASC/5
NADIS

D Extracts from Asbestos: The survey guide

1

Glossary of terms

Accredited Laboratories: A lab accredited to ISO/IEC 17025 for the measurement of airborne asbestos fibre concentration.

ACM: Asbestos containing material.

ACoP: An 'Approved Code of Practice' approved by the HSE which can be used in criminal proceedings.

Air Monitoring: This involves drawing a sample of air through a filter by means of a pump and then examining the number of fibres caught on the filter under a microscope.

ARCA: Asbestos Removal Contractors Association.

Asbestosis: A disease where asbestos fibres cause scarring of the thin membrane in the alveoli thus reducing the transfer of gases and making the lungs 'stiffer'.

Asbestos Co-ordinator: A person responsible for the management of asbestos.

Asbestos Management Programme: A system to ensure asbestos is located, assessed and controlled with lines of responsibility clearly defined for the programmes implementation.

Asbestos Register: A record of materials containing asbestos, their location, type, condition and the control measures used.

Asbestos Survey: A survey to locate and assess by type, condition, location and extent all asbestos containing materials present in the building.

Bulk Sampling Strategy: Involves the taking of a small sample of the material and examining it under a microscope. This is carried out during the survey.

Clearance Certificate: A certificate obtained from an analyst to verify that before the area is taken back into use by unprotected people it has been thoroughly cleaned, and inspected by people wearing suitable protective clothing and approved respirators to confirm that it is free of all visible asbestos materials.

Control Limit: A maximum concentration of asbestos fibres in air averaged over any continuous 4 hour or 10 minute period.

Desk-top Study: The gathering of information on the premises to be surveyed including the processes carried out in them.

Encapsulation: A process of sealing the asbestos yet maintaining most of the physical properties of the asbestos application.

Enclosure: A means to prevent the spread of asbestos during removal procedures.

Health Surveillance: An assessment of some aspect of an employee by a trained and competent person.

Licensed Contractor: A contractor licensed by the HSE Asbestos Licensing Unit for the carrying out of work on asbestos insulation, coatings, laggings including sealing and removal under the Control of Asbestos Regulations 2012 (CAR).

Material Assessment: An assessment to establish the relative ability of various types of asbestos containing materials to release fibres into the air should they be disturbed.

Medical Surveillance: A requirement under the Control of Asbestos at Work Regulations to provide adequate medical surveillance by an employment medical advisor or a registered medical practitioner approved by the HSE.

Mesothelioma: A malignant tumour of the pleura or peritoneum that can be caused by all types of asbestos.

Notification: The requirement to notify the enforcing authority in writing at least 14 days before commencing work with asbestos (based upon certain criteria).

Permit to Work System: A control procedure for high risk activities, tasks or process.

Plan of Work: A detailed written plan of how the work will be carried out.

PPE: 'Personal Protective Equipment' used as the last line of defence against exposure.

Reassurance Sampling: Sampling to ensure that there is no airborne respirable asbestos coming from residual deposits, which an enclosure was unable to contain.

Risk Assessment: A method used to identify the hazards, levels of risk and control measures required to ensure the health and safety of the asbestos surveyors.

RPE: 'Respiratory Protective Equipment' used to protect the worker from inhalation of asbestos dust or fibres.

Sample and Site Labelling: A unique identification of the sample and sample location that can also be recorded on site plans.

Sampling Strategy: A plan/scheme of the sampling method(s) to be used and the number of samples to be undertaken.

Hazardous Waste Consignment Note: A procedure/pro-forma to ensure that asbestos waste transport and disposal is controlled under the Hazardous Waste (England) Regulations 2005

Hazardous Waste: Waste containing asbestos is hazardous waste when it contains more than 0.1% w/w asbestos.

Survey Planning: A structured approach to ensure safety in surveying that includes a site walk-through, desk-top study, survey plan, risk assessment, method for recording and presenting data.

Management Survey: A location and assessment survey to determine the presence, extent and condition of asbestos containing materials by sampling and analysis to determine the presence of asbestos.

Refurbishment or Demolition Survey: A full sampling and identification survey normally used for building demolition work or major refurbishment when determination of volumes and surface areas of asbestos containing materials is required.

Type H Vacuum Cleaners: A cleaner designed to BS5415 used for vacuuming dusts hazardous to health.

UKAS: The UK Accreditation Service to which inspection bodies and laboratories are accredited.

Waste Carrier: A person who is required to carry waste in compliance with the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991.

Wipe Testing: This is used when asbestos has been disturbed or removed. It involves taking a dust sample from a flat surface and examining it under a microscope.

2 A guide to managing asbestos in premises

2.1 *What does the law require?*

There are many health and safety regulations that directly or indirectly place duties on employers in relation to asbestos. The key facts of these regulations are listed below. It is important that you are familiar with these. If you have followed the steps detailed in this guidance in managing your ACMs, you will have taken major steps towards preventing or minimising exposure to asbestos. You will therefore have taken major steps towards complying with your duties under these Regulations.

The Health and Safety at Work etc Act 1974 (HSW Act) requires an employer to conduct their work in such a way that their employees will not be exposed to health and safety risks, and to provide information to other people about their workplace which might affect their health and safety. Section 3 of the HSW Act contains general duties on employers and the self-employed in respect of people other than their own employees. Section 4 contains general duties for anyone who has control, to any extent, over a workplace.

The Management of Health and Safety at Work Regulations 1999 require employers and self-employed people to make an assessment of the risks to the health and safety of themselves, employees, and people not in their employment arising out of or in connection with the conduct of their business - and to make appropriate arrangements for protecting those people's health and safety.

There are duties to maintain workplace buildings/premises to protect occupants and workers under the Workplace (Health, Safety and Welfare) Regulations 1992.

The Construction (Design and Management) Regulations 2007 require the client to pass on information about the state or condition of any premises (including the presence of hazardous materials such as asbestos) to the planning supervisor before any work begins and to ensure that the health and safety file is available for inspection by any person who needs the information.

The Control of Asbestos Regulations 2012 (CAR) requires employers to prevent the exposure of their employees to asbestos, or where this is not practicable, to reduce the exposure to the lowest possible level. CAR includes a regulation placing a duty on those who have repair and maintenance responsibilities for premises, because of a contract or tenancy, to manage the risk from asbestos in those premises. Where there is no contract or tenancy the person in control will be the duty holder. There is also a duty of cooperation on other parties. The duty is supported by: -

- an Approved Code of Practice supports CAR, and is directed at both licensed and non-licensed work on ACMs
- An explanatory booklet available from HSE or Ledbury Surveys Limited (from which this guidance was extracted)

- A comprehensive guide to managing asbestos in premises – HSG264 Asbestos: The Survey Guide;
- a free leaflet available from HSE or Ledbury Surveys Limited specifically to give advice to small to medium-sized companies.

2.2

Specific legal duties under regulation 4 of CAR 2012

The broad requirements on employers and others are to:

- take reasonable steps to find materials likely to contain asbestos
- presumed materials contain asbestos, unless there is strong evidence to suppose otherwise.

They do not:

- assess the risk of the likelihood of anyone being exposed to asbestos from these materials
- make a written record of the location and the condition of the ACMs and presumed ACMs and keep it up to date
- repair or remove any material that contains or is presumed to contain asbestos, if necessary, because of the likelihood of disturbance, and its location or condition
- prepare a plan to manage that risk and put it into effect to ensure that
- information on the location and condition of ACMs is given to people who may disturb them during work activities
- any material known or presumed to contain asbestos is kept in a good state of repair
- monitor the condition of ACMs and presumed ACMs; and
- review and monitor the action plan and the arrangements made to put it in place.

3

HSG264 Asbestos: The survey guide, SUMMARY

3.1

Surveying, Sampling and Assessment of Asbestos Containing Materials

Asbestos: The survey guide replaces and expands on MDHS 100, Surveying, sampling and assessment of asbestos-containing materials. It is aimed at people carrying out asbestos surveys and people with specific responsibilities for managing asbestos in non domestic premises under the Control of Asbestos Regulations 2012 (CAR).

3.2

Introduction

The survey guide sets out how to survey workplace premises for asbestos containing materials (ACMs) and how to record the results in a usable form. It also gives advice on how to recognise and sample suspected ACMs and how to assess them for their relative risk, so that all the relevant information to produce a plan to manage the risk from asbestos is available. The survey guide has been produced as part of guidance issued by the Health & Safety Executive.

3.3

Managing Asbestos

CAR already places duty on employers before carrying out any work with asbestos to make an adequate assessment of any exposure to asbestos of his employees and to prepare a suitable written plan of work detailing how the work is to be carried out. The duty to manage asbestos in non-domestic premises requires the employer to make an assessment as to whether asbestos is or is liable to be present. Where asbestos is or is liable to be present the employer has to prepare a written plan identifying the areas concerned and specifying the measures to manage the risks arising. Both the assessment and the plan have to be reviewed, recorded and updated regularly. The risks will vary with circumstances, ranging from normal occupation of premises, to the repair, refurbishment and removal of the ACM and they will need to be assessed accordingly. The broad requirements on employers and building owners are to:

- take suitable and sufficient steps to determine the location of materials likely to contain asbestos;
- presume materials to contain asbestos, unless a reasoned argument to the contrary can be made;
- make and maintain a written record of the location of the asbestos and presumed asbestos materials;
- monitor the condition of asbestos and presumed asbestos materials at regular intervals;
- assess the risk of exposure from the asbestos and presumed asbestos materials and document the actions necessary to manage risk;

- take steps to see that the actions above are carried out;

To manage the risk from asbestos it will necessary to:

- keep and maintain an up to date log of the location, condition, maintenance and removal of all asbestos containing materials on the premises;
- repair, seal or remove, if there is a risk of exposure due to its condition or location;
- maintain in a good state of repair;
- inform anyone who is likely to disturb it about the location and condition of the material;
- have arrangements and procedures in place, so that work which may disturb the materials complies with the CAR;
- review the plan at regular intervals.

3.4

Asbestos Surveys

An asbestos survey has three main elements:

- Firstly, it must as far as reasonably practicable locate and record the location, extent and product type of any presumed or known ACMs;
- Secondly, it must inspect and record information on the accessibility, condition and, surface treatment of any presumed or known ACMs;
- Thirdly, it should determine and record the asbestos type, either by collecting representative samples of suspect materials for laboratory identification, or by making a presumption based on the product type and its appearance etc.

This information must be held in a suitable (upgradeable) form and should be accessible to and understandable by all relevant personnel.

3.5

Aim and Purpose

The type of survey undertaken may vary, depending on the aim and purpose for which it is to be used. Surveys before demolition and refurbishment continue to be required under CAR and the CDM regulations. However, it is anticipated that most surveys will be undertaken to comply with regulation 4 of CAR to manage asbestos in premises. In these cases, the aim of an asbestos survey is to locate and assess all the ACMs present in the building and its purpose is to present the information collected in a way that allows the employer to manage the risk. Therefore the aim, purpose and type of survey requires should be clearly established in the original invitation to tender, or agreed with the client at a preliminary meeting or site visit before starting the survey. One of the main issues is

how frequently; sampling and analysis should be carried out to prove the ACMs are or are not present.

3.6 Type of Survey

The duty-holder, building owner, employer and surveyor need to be clear on the type of survey needed, where the survey is needed, and what records should result.

There are two types of survey for ACM

3.7 Management survey

The Management Survey purpose is required to manage ACM during the normal occupation and use of premises. The duty-holder can make a Management Survey where the premises are simple and straightforward. Otherwise, a surveyor is needed.

A Management Survey aims to ensure that:

1. nobody is harmed by the continuing presence of ACM in the premises or equipment;
2. that the ACM remain in good condition; and
3. that nobody disturbs it accidentally

The Survey must locate ACM that could be damaged or disturbed by normal activities, by foreseeable maintenance, or by installing new equipment. It involves minor intrusion and minor asbestos disturbance to make a Materials Assessment. This shows the ability of ACM, if disturbed, to release fibres into the air. It guides the client, eg in prioritising any remedial work.

3.8

Refurbishment / demolition survey

The Refurbishment / demolition Survey is required where the premises, or part of it, need upgrading, refurbishment or demolition. The Survey does not need a record of the ACM condition. Normally, a surveyor is needed for Refurbishment / demolition Surveys.

A Refurbishment / demolition Survey aims to ensure that:

nobody will be harmed by work on ACM in the premises or equipment;

such work will be done by the right contractor in the right way

The Survey must locate and identify all ACM before any structural work begins at a stated location or on stated equipment at the premises. It involves destructive inspection and asbestos disturbance. The area surveyed must be vacated, and certified 'fit for reoccupation' after the survey.

Source: HSE Asbestos home page.

Chris Turner

Lead Surveyor

Ledbury Surveys Limited

4 Typical Method Statement for an Asbestos Survey

4.1 *Objective*

The purpose of all asbestos surveys is to undertake a visual inspection throughout the property and identify fibrous materials likely to contain asbestos for subsequent sampling and laboratory analysis. Where appropriate, for each use of asbestos identified, a risk assessment is presented with conclusions where appropriate for remedial action.

4.2 *Preliminary*

Obtain background information to include where possible:

- Age of building, in particular age of any internal fit-out.
- Plan of survey area
- Presence of any Asbestos Register
- Any areas where a 'permit to work' is required.

4.3 *Visual Inspection*

Prepare a health and safety risk assessment for the file, modify this during the tender inspection and again if necessary, during the preliminary inspection. Undertake a walk round visual inspection to identify fibrous materials likely to contain asbestos. The inspection should be undertaken discretely without drawing undue attention to the building occupants.

All materials suspected of containing asbestos shall be noted for subsequent sampling. Observe and record the visual condition of any suspect asbestos. Assess the likelihood of damage albeit accidental or via maintenance access. All suspect areas that are inaccessible for close inspection and sampling shall also be noted.

Note the construction of all suspect areas i.e. plasterboard, timber etc. Record any areas where loose suspect asbestos fibres may have been released and the material is either damaged or in a condition where it may become dislodged.

Where possible selectively remove loose-laid non-asbestos based ceiling tiles to inspect the ceiling void above. Ceiling tiles shall not be removed in sensitive locations i.e. food preparation and display areas.

The inspection is visual only. Permanent finishes are not to be damaged or removed. Access panels particularly for service riser cupboard and ducts etc, if screw fixed, shall be removed if possible in selected locations. Any areas suspected of obscuring asbestos based material from view will be highlighted.

Non-asbestos based 'Supalux' fibreboard shall be identified and recorded by way of a visual inspection. If concealed behind surface coverings then sampling may be necessary.

4.4

Bulk Sampling

All suspect items identified within the visual inspection shall be sampled where accessible whilst maintaining the health and safety of both the surveyor and building occupants. Sampling is to be undertaken where possible in areas remote from building occupants.

Personal protective clothing and facemasks shall be worn during sampling and disposed of in an appropriate manner upon completion. Sampling tools shall be cleaned and all cleaning materials disposed of and discarded as contaminated waste upon completion.

When sampling, either break or cleanly cut the suspect material rather than drilling or sawing. Fibre release when sampling shall be collected in a plastic bag with sealed openings. Never remove a sample where asbestos fibre release cannot be contained and collected.

All samples will be placed within two sealed plastic bags. The outer bag shall be labelled with a unique identification. All outer sample bags to be marked asbestos and all material to be kept secure in a container labelled as containing asbestos.

After sample removal, the test location shall be sealed as appropriate either by spray adhesive or a layer of heavy duty 'Duck' tape. No cut or broken edges to remain. Upon completion check no asbestos fibres have fallen to floor etc.

Do not remove samples of asbestos-cement from boiler flues where the risk of damage may render the flue unfit for use. This may also similarly apply to other forms of dense asbestos-cement products.

4.5

Air Sampling

Air sampling shall be undertaken in those areas suspected of containing loose air-borne asbestos fibres as a result of asbestos nominally in a poor condition or where extensively sampled or where asbestos removal works have been undertaken.

All air sampling to be undertaken in accordance with Health & Safety Executive Document MDHS 39/4 'Asbestos Fibres in Air'.

The sampling period, flow rate and volume shall be selected to suit survey requirements however it shall be one of the following:

- Personal sampling to determine compliance with relation to fibre control limits at 1 litre/minute.
- Personal sampling in relation to ten-minute control limits at a flow rate of 4 litres/minute.

- Personal sampling in relation to action levels undertaken over a twelve-week period.

The test site area shall be selected as representative of conditions likely to contain airborne asbestos fibres. Filter samples shall be collected in glass or hard plastic cases that are indelibly marked with a unique identifier.

4.6

Laboratory Analysis

Analysis of bulk samples and filter samples will be undertaken in a UKAS accredited laboratory who is a member of and can demonstrate compliance with the AIMS scheme. Laboratory analysis shall be undertaken using Phase Contrast Microscopy using Dispersion Staining Objective techniques.

The Asbestos in Materials Scheme (AIMS) is the UK national proficiency testing programme for bulk asbestos analysis. Individual analysts should also demonstrate competency through training records and satisfactory performance in an internal quality assurance scheme.

4.7

Material Risk Assessment (MRA)

For each use of asbestos identified a risk assessment shall be undertaken to determine the likelihood of exposure to respirable asbestos dust within the accommodation of the building.

The risk assessment is based upon the type of asbestos, the nature of its application, its physical condition, the likelihood of accidental damage and consequent fibre release. Once the risk has been assessed, based on the evaluation of these variables, either a scheme of remediation can be developed, or an asbestos management plan (AMP) formulated.

5 **Asbestos Surveyors**

CAR 2012, The survey guide and the associated ACoPs refer to asbestos surveys being carried out by 'competent persons' with experience, training and suitable qualifications. Ledbury Surveys Limited confirm that their Surveyors have a minimum five years experience in asbestos related work and are suitably trained, qualified and classed as competent persons as described in the revised legislation guidance.

5.1 ***Training***

Ledbury Surveys Limited will only employ qualified staff to carry out asbestos survey and related work. All active team members meet minimum training requirements and Asbestos Surveyors will have successfully completed a recognised ARCA (Asbestos Removal Contractors Association) or NATAS (National Asbestos Training Centre) training course and achieved passes in the BOHS (British Occupational Hygiene Society) examinations P402 (Asbestos Bulk Sampling) and P405 (Asbestos Management).

5.2 ***Insurance***

Insurers have placed onerous conditions on the professional indemnity market with regard to specific asbestos insurance cover. This has been reflected in premiums and many organisations have found it difficult to obtain any asbestos related PI cover, which is required by the legislation. Ledbury Surveys Limited can confirm that all advice and survey work carried out by the Asbestos Team carries full PI cover up to £250K, and more can be negotiated if required. This cover can only be provided under the umbrella of named individuals working for Ledbury Surveys Limited who have been assessed by the insurers and linked to the legal documentation.

5.3 ***Continuing Professional Development (CPD)***

All members of Ledbury Surveys Limited team are encouraged through a generous training scheme and CPD to achieve excellence in the field and to obtain personal accreditation. This is being accomplished through either the UKAS assessed NATAS/ABICS (Asbestos Building Inspectors Certification Scheme). Accreditation will become the primary goal for Surveyors to demonstrate the highest professional standards of quality in asbestos survey and asbestos management.

6 Survey plan and sampling strategy

6.1 *Types of asbestos survey*

Under the new regime, there are only two types of asbestos survey:

- the **Management Survey** (broadly similar to the old Type 2 survey) - designed to locate, as far as reasonably practicable, the presence and extent of ACMs, so that the Duty holder can prepare a plan for the management of asbestos
- the **Refurbishment/Demolition Survey** (broadly similar to the old Type 3 survey) - a much more intrusive survey, designed to locate all the ACMs so they can be removed before the refurbishment (whether small scale or a large project) or demolition takes place. Aggressive inspection techniques will be required, so controls must be in place to prevent the spread of asbestos debris

6.2 *Choosing the surveyor*

The new Survey Guide imposes an obligation on the duty holder to check the competency of the surveyor, which involves a two stage process:

- an assessment of the company's or individual's survey expertise to determine whether they can carry out the survey safely and without risk to health
- an assessment of the company's or individual's experience and track record to establish if they are capable of doing the work

The duty holder should be satisfied that the surveyor can allocate adequate resources - personnel and time - to the survey. This will have implications for the cost of the survey.

Competence may be demonstrated by having accreditation from the United Kingdom Accreditation Service or British Occupational Hygiene Society. However, the survey guide clearly envisages that the duty holder will do more to check the surveyor's competence than merely obtaining confirmation of his accreditation. This should be reinforced by evidence of actual experience - the HSE recommends at least six months practical experience on asbestos surveys.

6.3 *Planning the survey*

This involves a proactive approach from both the surveyor and the duty holder. Its success will depend upon extensive exchange of information and a clear understanding of each party's responsibilities.

The duty holder should provide:

- clear information on the number of buildings to be inspected
- plans and relevant reports or surveys on the building design, structure and construction

- information as to the use of the buildings and any known hazards ie special clothing areas, fire alarm testing,
- details of access arrangements to all relevant areas along with contact details.

The surveyor should provide:

- details of any caveats (see below)
- Report including confirmation of any areas not accessed
- names of surveyors and confirmation of qualifications
- timetable of work
- plan of areas where sampling or asbestos disturbance will take place

6.4

Site meeting

A site meeting is recommended to assist the surveyor to plan the survey, for example to estimate the extent of sampling, to become aware of any on-site hazards or access problems. Such factors will enable an accurate fee quotation to be produced. There should be discussion about any areas that may be difficult to access, for example locked rooms, walls obscured by shelving or blocked areas. The duty holder should facilitate access.

The site meeting is also the opportunity to discuss any caveats that the surveyor intends to impose and to allow the duty holder to negotiate the terms or even to engage a different surveyor. The duty holder must remember that restrictions on the scope of the survey will potentially jeopardize the effectiveness of the survey, so if he seeks to restrict the surveyor's access to particular areas, this may affect his ability to discharge the duty to manage asbestos.

The surveyor should be adequately prepared for accessing areas such as ceiling voids, lofts, lift shafts, basements or high ceilings. The duty holder should not accept that such restrictions on the surveyor's ability to access such areas should impair the survey.

The survey guide says 'survey restrictions and caveats can seriously undermine the management of asbestos in buildings. Most can be avoided by proper planning and discussion. They MUST be agreed between the duty holder and the surveyor and documented in the survey report'.

The widespread practice of including standard form caveats in asbestos survey reports is to be discouraged. As a matter of general contract law, they may be ineffective to protect a negligent surveyor.

Under the new HSE guidance, the duty holder cannot simply take advantage of the small print, for example excusing the surveyor from accessing areas above a certain height, to relieve him of his obligation to locate and manage asbestos.

6.5

Desk top study

As with MDHS 100, the new Survey Guide directs the surveyor to collate the information and plan the survey by means of a desktop study.

The Surveyor should then produce a plan summarizing the work to be undertaken. The final report format should be agreed in advance with the duty holder, bearing in mind that its purpose is to enable him to produce an updateable asbestos register and a plan showing the location of ACMs.

6.6

Carrying out the survey.

The new Survey Guide contains detailed instructions to the surveyor and largely reproduces in somewhat expanded form the contents of MDHS 100. The same applies in relation to the presentation of results. In addition, the new Survey Guide imposes an obligation on the duty holder to check the accuracy of the survey reports by checking:

- the report against the original tender
- that the survey is of the type requested
- that all rooms and areas have been accessed
- that sufficient samples have been taken (usually one or two per area or room)
- for any obvious discrepancies and inconsistencies

6.7

Conclusion

Although the new Survey Guide does not depart radically from the framework laid down in MDHS100, it does represent an advance in relation to asbestos surveying. Duty holders should familiarise themselves with the express obligations imposed on them in relation to:

- checking the surveyor's competence
- being involved at the survey planning stage
- checking the survey reports

7

Asbestos Product Types

7.1

Loose asbestos insulation

Some fire doors contained loose asbestos insulation sandwiched between the wooden or metal facings to give them the appropriate fire rating. Loose asbestos was also packed around electrical cables, sometimes using chicken wire to contain it. Mattresses containing loose asbestos were widely manufactured for thermal insulation. Acoustic insulation has been provided between floors by the use of loose asbestos in paper bags, and in some areas near asbestos works it is not unknown for loose asbestos to have been used as a readily available form of loft insulation.

7.2

Sprayed asbestos coatings

These are normally homogeneous coatings sprayed or trowelled onto reinforced concrete or steel columns or beams as fireproofing. Sprays were also commonly used on the underside of ceilings for fireproofing and sound and thermal insulation in many high-rise premises. Warehouses and factories commonly had sprayed asbestos applied to walls, ceilings and metal support structures for fireproofing and thermal/anti-condensation insulation purposes. In some larger spaces, sprays were also applied to walls and ceilings for acoustic and decorative purposes (theatres, cinemas, studios, halls etc). The depth of the spray depended on the fire rating and substrate, and may vary from 10 to 150 mm thick. The dry sprayed coatings may have a candyfloss appearance if left untamped (rarely found in the UK). The wet sprayed/trowelled coatings are usually denser, and those with higher proportions of Portland cement that have been well tamped can be quite hard. Surfaces may be sealed with an elasticised paint or proprietary encapsulant, sometimes reinforced with calico or manmade fibre mesh, or left completely unsealed. Spray coatings are vulnerable to accidental damage and also to delamination due to water leakage releasing debris onto the floor and other horizontal surfaces. Overspray onto areas and recesses surrounding the object that was being coated is common. Spray coatings may have deteriorated significantly since installation and must be treated with caution.

7.3

Thermal insulation

Asbestos was widely used to insulate pipes, boilers and heat exchangers. There are several types and forms of insulation, often with multi-layer construction. Pre-formed sections of asbestos insulation were made to fit the diameter of the pipe. These would be strapped on and calico-wrapped and sometimes painted (eg 'Decadex' finish), or sealed with a hard plaster (often asbestos-containing) to protect against knocks and abrasion. Other types of asbestos-containing felts, blankets, tapes, ropes and corrugated papers were also used. For bends, joins, small sections of pipe and repairs, an asbestos-containing plaster was wet-mixed on-site and hand-applied to the areas. Larger installations were also insulated with asbestos-containing plaster which was marketed as 'plastic', but various local names were used for this hand-applied insulation (eg 'muck'). Larger thicknesses of insulation would use pre-formed blocks (eg 'Caposil') wired in place, then various other coatings or layers applied, depending on the insulation required. Very hard-wearing coatings were known as 'Bulldog' finishes and may contain metal sheets and/or chicken wire reinforcement beneath a hard plaster finish. External pipes may also be clad with sheet metal or painted with bitumen for additional weatherproofing. Installers often used whatever materials were available to hand or in stock, so it is very common to find variations on the same pipe or boiler. Pay particular attention to bends and valves, or where it is evident that repairs have been made.

7.4

Millboard

Millboard was used when a low-cost, relatively soft low-density board with modest mechanical properties but with good fire, insulation, thermal and electrical properties could be specified. Generally found in industrial premises, but has been used as exterior lining to ventilation ducts and was commonly used inside fire doors.

7.5

Asbestos insulating board (AIB)

Widely used in premises for internal partition walls and linings and for fire protection, acoustic and thermal insulation. Suspended ceiling tiles were often made from AIB. Insulating boards come in a range of densities and can be subject to damage by the use of moderate force (e.g. Kicking). There may be variations due to later construction of partition walls as part of a redevelopment or refurbishment. All kinds of combinations may be found and surveyors must be alert for all possibilities. Areas around lift shafts,

stairwells and service risers in multi-storey buildings were commonly used lined or faced with AIB or composites. Similarly, areas also faced with AIB to achieve the appropriate fire rating. AIB is usually found inside premises, but weather protected exterior areas such as porches and soffits may contain AIB.

- 7.6 *Asbestos insulating board (AIB) in composite materials***
Asbestos insulating board was used in composite materials and may be sandwiched between or surfaced with non-asbestos products such as straw board, plywood, metal mesh, sheet metal and plasterboard.
- 7.7 *Asbestos papers, felts and cardboard***
Air conditioning trunking may be insulated internally with 'Paxfelt' or externally with other asbestos-containing felt, cardboard and paper for acoustic and heat insulation. Asbestos papers were widely used to line the surfaces of other boards, ceiling tiles and sheet materials.
- 7.8 *Asbestos textiles***
Asbestos textiles were manufactured for primary heat (e.g. insulation tapes and ropes) or fire protection uses (e.g. fire blankets, fire curtains, fire resistance clothing). Textiles were also used widely as a reinforced material in friction products/composites
- 7.9 *Asbestos gaskets, washers and strings***
A wide range of asbestos gaskets have been produced and used for sealing pipe and valve joints in industrial plant, but they may also be found in some older domestic boilers etc. Asbestos string was widely used in the past by plumbers for sealing various screw thread joints.
- 7.10 *Asbestos cement sheets and tiles used for roofing and cladding***
Asbestos cement (A/C) has been extensively used for roofing and cladding on industrial, public and some domestic premises. Corrugated/profile sheets are commonly found, but flat sheets have also been widely used for exterior and some interior cladding (e.g. panels below windows and on walls in older prefabricated housing).
- 7.11 *Moulded asbestos cement products***
A wide range of moulded compressed A/C products have been used inside premises (e.g. waste pipes, cold water tanks, flues etc) and outside premises (e.g. gutters, downpipes, flues, cowls, etc). Many other items have been moulded from asbestos cement. Asbestos cement pipes are also used underground (e.g. from local drainage to regional water supply systems).
- 7.12 *Textured coatings, paints and plasters used for decorative effects***
These were often manufactured containing up to a few per cent of asbestos. 'Artex', 'Wondertex', 'Suretex', 'Newtex', 'Pebblecoat' and

'Marblecoat' are examples of typical trade products, which usually contained a few per cent of chrysotile asbestos.

7.13

Bitumen products

Bitumen-based roofing felts are damp-proof courses have been widely reinforced by the addition of asbestos, usually in the form of chrysotile paper. Bitumen-based wall and floor coverings were also produced. Some mastics used to stick the bitumen products commonly had asbestos added to them to provide flexibility. Other sealants also had asbestos added to improve the performance of the product.

7.14

Flooring products

Polyvinyl chloride (PVC or vinyl) tiles were manufactured with added asbestos to meet a British standard and often contain a few per cent (5-7 %) of very fine chrysotile. Black and brown thermoplastic tiles containing larger amounts and often visible clumps of chrysotile were also produced. Sheet floor coverings were sometimes backed with a thin layer of chrysotile paper (e.g. 'Novilon', a vinyl flooring, which was more common in Europe). Some underfelts for carpets and linoleum were also manufactured containing asbestos. The mastics which were used bond the floor covering to the surface could also contain asbestos. Some hard-wearing composite floors (e.g. magnesium oxychloride) also contain about 2 % of mineral fibres which could be asbestos.

7.15

Asbestos-reinforced plastic/resin composites and friction products

Asbestos-reinforced plastics and resin composite material were used for windowsills, capping for banisters, school and laboratory worktops, toilet cisterns etc. The material is often black and has a high density and scratch resistance. Asbestos textiles were widely used as a reinforcing material in friction products (e.g. conveyor and fan belts, brake and clutch linings). Older asbestos-containing components may still be in use or present in vehicle repair and maintenance workshops and stores.

7.16

Metal-asbestos composites

Flues for wood-burning stoves were commonly constructed from a metal-asbestos where the asbestos was added as insulation between the inner and outer layers of stainless steel to give a high degree of insulation when passing through floors and on the outside to prevent sudden cooling of the flue gases. 'Durasteel' metal panels were used to provide a strong construction with a certain degree of insulation, by incorporating a layer of asbestos paper.

7.17

Wall jointing tapes and fillers

Chrysotile textile tapes and webbing were used to reinforce wall joints before plastering. Several types of wall plugs and some wall repair fillers had asbestos added to give additional strength and flexibility. These are very difficult to locate as they are integrated into the plaster finish.

7.18

Domestic appliances and products

Many domestic applications and products contain asbestos insulation materials for thermal or electrical insulation, including ironing boards, hairdryers, oven seals, simmering plates etc. Some older electric fires and storage radiators and old gas fires with catalytic elements or coal or log effect gas fires also contained ACMs.

7.19

Industrial sites, factories and plant

Industrial sites (e.g. refineries, power stations, warehouses and factories) often contain substantial amounts of asbestos. Many of the examples given for spray, thermal insulation and pipe lagging come from industry. Higher-performance ACMs were usually specified to cope with the higher temperatures and pressures prevalent at industrial sites. Some machinery may also incorporate asbestos gaskets and friction products (e.g. clutches, brake pads, drive belts and conveyor belts). The higher power requirements of industry also saw increased use of asbestos insulation in electrical cables and switchgear.

7.20

Dust and debris

Damaged materials will release asbestos dust and debris. Often the source of the debris is obvious, but if poor removal and/or a poor level of clean-up has taken place, only asbestos dust and debris will be left. This will have accumulated on horizontal surfaces and will in difficult-to-clean areas. Poor removal will also leave debris, either remaining in situ from where it should have been removed or as scattered debris often in difficult-to-reach or clean areas.

7.21

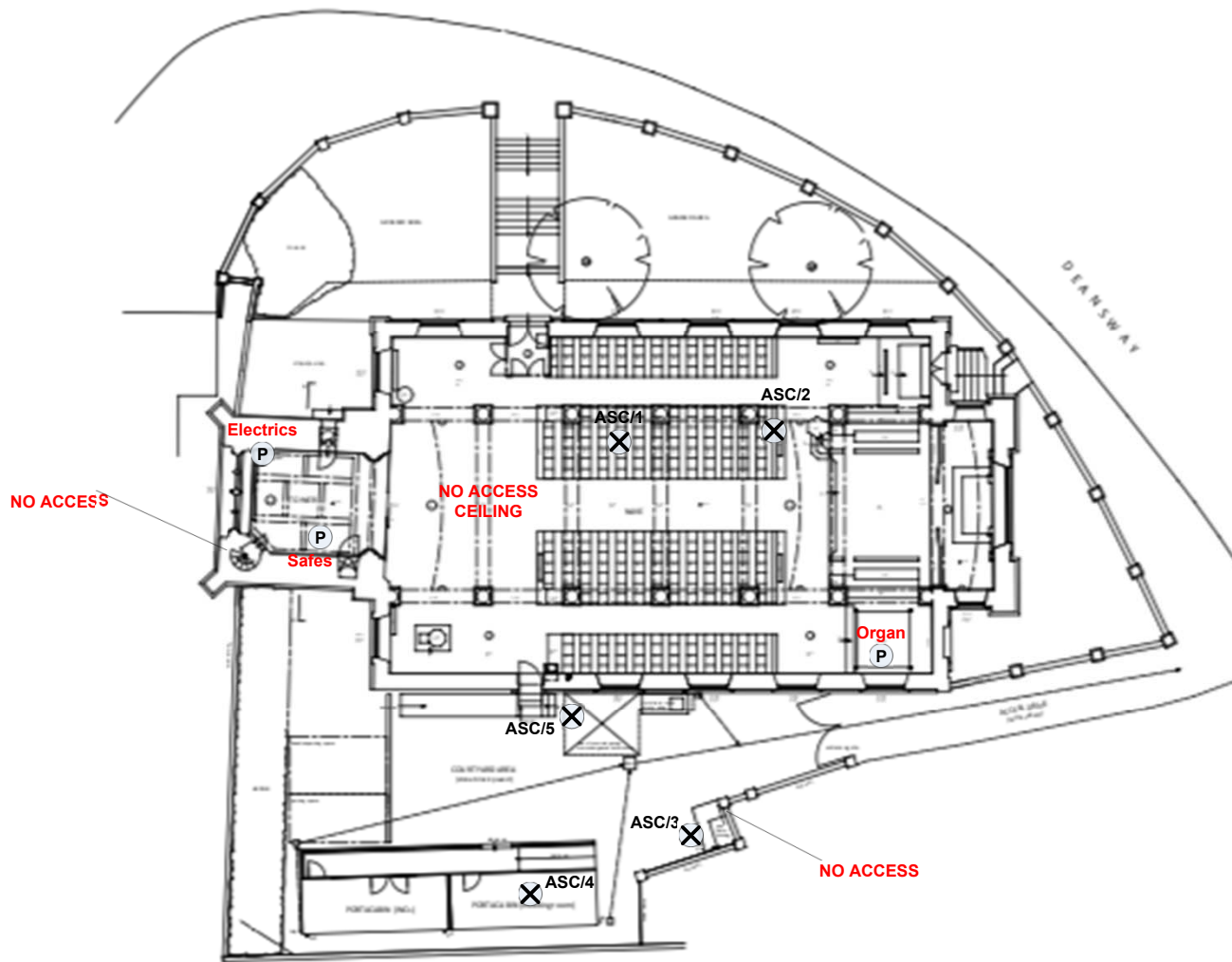
Non-asbestos replacement materials

Many materials in a building will be non-asbestos, and many of these can be readily recognised as such. Later premises will often contain substitute non-asbestos materials, which cannot be differentiated without analysis. Some examples are given below.

Extracted from The survey guide February 2010

E

Site Plan



GROUND FLOOR PLAN

DRAWING PRODUCED FROM AN ORIGINAL SURVEY CONDUCTED BY THE ARCHITECTS AND HISTORIC BUILDINGS FOR WILTSHIRE

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All Saints Worcester
Ground Floor Plan As Calling

- KEY
- ✕ SAMPLE POINT
 - Ⓟ PRESUMED ITEM

Ground Floor
All Saints Church
Worcester
WR1 2HN

Scale: NTS

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