CODE OF PRACTICE

FOR MANAGEMENT OF

ASBESTOS MATERIALS IN SCHOOLS

Issued by The Office Of Public Works Health & Safety Unit
Version March 2010.

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1.0 INTRODUCTION

The purpose of this Code of Practice is to provide School Managers, Principals and Consultants with competent guidance on the management of asbestos hazards which may be present in Schools and which could be disturbed as a consequence of construction works, refurbishment or mechanical and electrical fit outs. These procedures shall be applied at the design stage of all projects listed in 1.2 below.

The Code is relevant to all Architects, Engineers, Surveyors, Consultants, Contractors and others who may be involved in design, construction, maintenance, or refurbishment works in Schools. School Boards of Management must ensure that the Code is brought to the attention of all persons appointed by the School for the purpose of designing or undertaking works similar to those listed in 1.2 below.

It is not the intention of this Code of Practice to be definitive in all circumstances, but rather to ensure a uniform approach to the management of asbestos risks and to provide guidance on adherence to the prevailing versions of the following:

- The Safety Health and Welfare at Work Act 2005.
- The Safety Health and Welfare at Work Construction Regulations 2006 SI 504 2006.
- The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006.
- The Safety Health and Welfare at Work (General Application) Regulations 2007 SI 299 2007.

1.1 Scope

This Code of Practice applies to all School buildings.
The procedures shall apply in all circumstances, but not just be limited to, situations where the following works are planned:

- Mechanical Works including the replacement, refurbishment or interference with boilers, burners, calorifiers or pipe work.
- Electrical Works including the replacement, refurbishment or provision of switch gear, fuse boards, electrical fittings or cabling.
- Projects to facilitate inclusion and access for special needs pupils where floors, walls or structures are interfered with.
- Toilet refurbishment including the replacement of cisterns, toilet seats or flooring.
- Roof works including the replacement, disturbance or partial disturbance of slates, preformed sheeting, roof tiles, guttering and down pipes.
- Window projects.
- Fire protection works including the removal/replacement of doors, ceilings, panels or sprayed materials.
- Flooring projects including disturbance for piping, radon remediation and floor covering replacement.
- Other structural improvements.

1.2 The Office of Public Works Health and Safety Unit

The Department of Education and Science has assigned responsibility for managing and monitoring the asbestos removal programme in State buildings, including Schools, to the Health and Safety Unit.

Advice or information, on asbestos management is available from the Unit on an ongoing basis. Concerns or suspicions about the presence of asbestos in schools should be referred to the Unit immediately.

The Health and Safety Unit may be contacted at 52 St. Stephen's Green, Dublin 2.

Tel: (01) 6476000, 6476222, 6476261 & 6476447
Fax: (01) 6613104
Email: asbestos@opw.ie

2.0 BACKGROUND

2.1 General information

Asbestos is the common name given to a group of naturally occurring minerals with long fibre characteristics. Due to its unique fire resistant and insulation properties, the material was widely used as a construction product especially prior to the end of 1985.

Asbestos may be sub-divided into three main types:

Chrysotile:
Normally referred to as “white asbestos”. This material is the most common type of asbestos found in asbestos cement/concrete products.

Amosite:
Commonly referred to as “brown asbestos”. This material was utilised widely in the production of thermal insulation materials and fire resistant sheeting.

Crocidolite:
Commonly referred to as “blue asbestos”. This material was used as a fire resistant and thermal insulator, often in sprayed format.

2.2 Main Risks

The main risk associated with asbestos materials is the inhalation of asbestos fibres. The more friable (easily crumbled) the asbestos material the greater the hazard, thus the strategy in terms of protection is to avoid exposing people to airborne fibres.

Remember: Asbestos only poses a substantial risk when fibres are released into the air.

2.3 Main Risk Groups

The groups of persons most exposed to asbestos fibres are those, whose work may require them to disturb or demolish asbestos materials. These groups can be summarised as:

- Carpenters.
- Plumbers.
- Electricians and Cabling Engineers.
- Construction Workers.
- Heating Engineers.
- Asbestos Removal Workers.
- Building occupants exposed to uncontrolled asbestos disturbance.

This list is not exhaustive and may include any persons whose work is likely to bring them into regular contact with asbestos materials during building refurbishment work or asbestos removal works. Should disturbance occur under uncontrolled conditions then School occupants could also be exposed to airborne fibres.

2.4 What Was Asbestos Used For?

Asbestos based materials or mixtures of asbestos, were commonly used for six main purposes:

- **Thermal insulation** on boilers, water heaters and pipes where the material was sprayed or used in the lagging format
- **Insulation boards** used for fire protection/acoustic purposes on ceilings, ducts, partitions and service shafts (e.g. Asbestolux and Marinite)
- **Sprayed asbestos** on steel work for fire protection purposes
- **Mixtures of asbestos and hydrated asbestos cement** used mainly for fire protection of ducts, panels, partitions, soffit boards and around steel work
- **Asbestos cement products** in flat or corrugated sheeting for wall or roof panels. Asbestos cement products were also used for water pipes, gutters and water tanks
- **Floor tiles and adhesives**, gaskets, millboard, sealers and some textured coatings.

The risk of fibre release is dependent on the nature and condition of the asbestos material. The more friable materials, such as sprayed-on coatings, are far more likely to produce airborne fibres than the asbestos cement products. However, even cement-based products may release fibres if abraded, mechanically disturbed or cut.

Remember: Avoid any action which would result in the release of asbestos fibres into the air.

2.5 Where Would I Find Asbestos?

The material is likely to be present if a School was constructed or refurbished between 1950 and 1985. The risk of asbestos being present is increased if the building:

- Has a steel frame where fire protection in the form of spray material, board or painted surface is present.

- Contains a boiler with thermal insulation
- May have required fire protection for class rooms, science rooms or evacuation corridors

Generally all buildings constructed/refurbished in the period 1950-1985 should be assessed for the presence of asbestos materials. The areas where asbestos is likely to be present are:

- Boiler rooms and plant rooms
- Pipe runs throughout a building
- Fire resisting doors, boards or sprays
- Ceiling tiles and/or slabs/textured ceiling coatings
- Around windows and behind radiators
- Service ducts and shafts
- Roofs, in the form of asbestos cement sheeting
- Floors, in the form of tiles or adhesives
- Toilet cisterns/seats

Fig 1: Asbestos containing adhesive to floor tiles.

Fig 2: Asbestos gaskets and seals to heating pipe flanges.

Fig 3. Asbestos Strip to Old Fire Door.

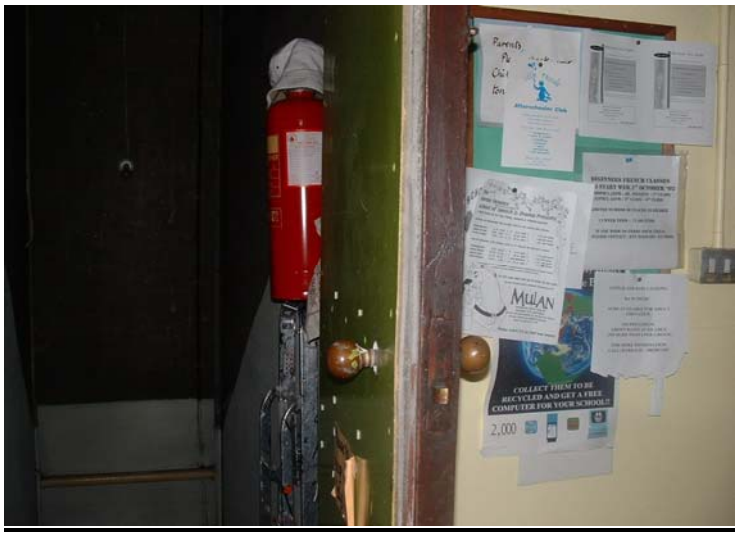


Fig 4: Asbestos containing floor tiles.

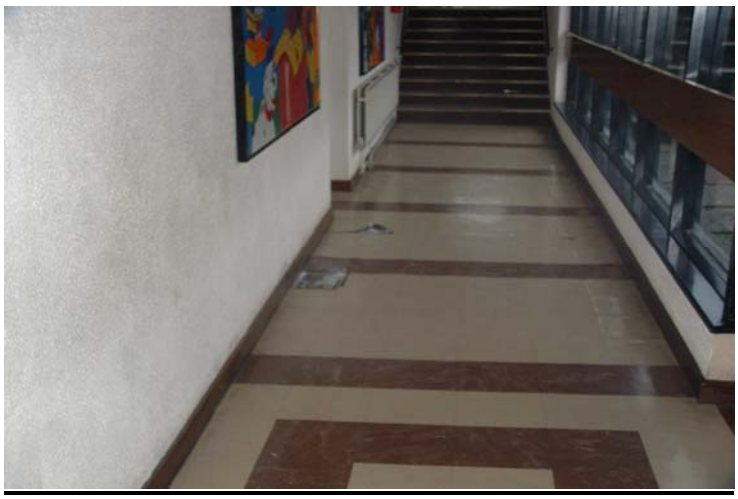


Fig 5: Asbestos Panels to Prefab.

Fig 6: Asbestos Containing Ceiling Panels.

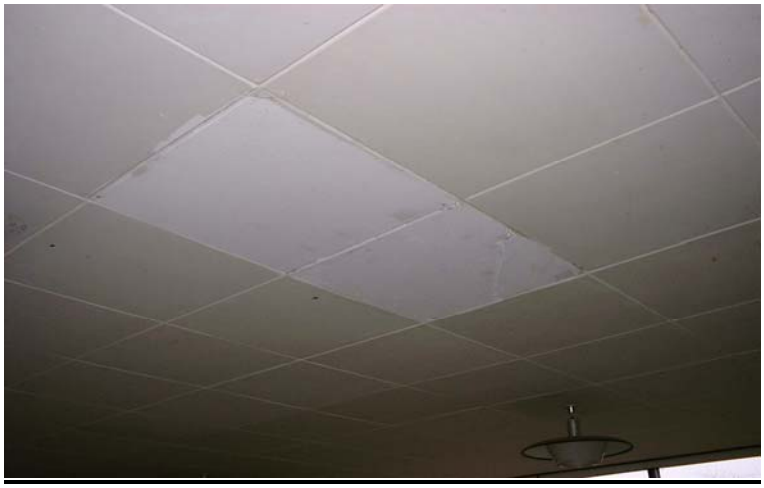


Fig 7: Asbestos Insulation on Pipe Work.

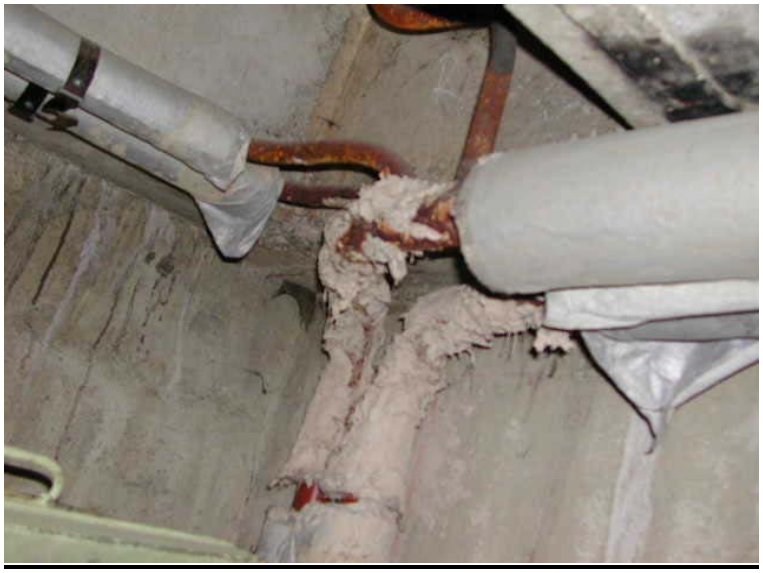
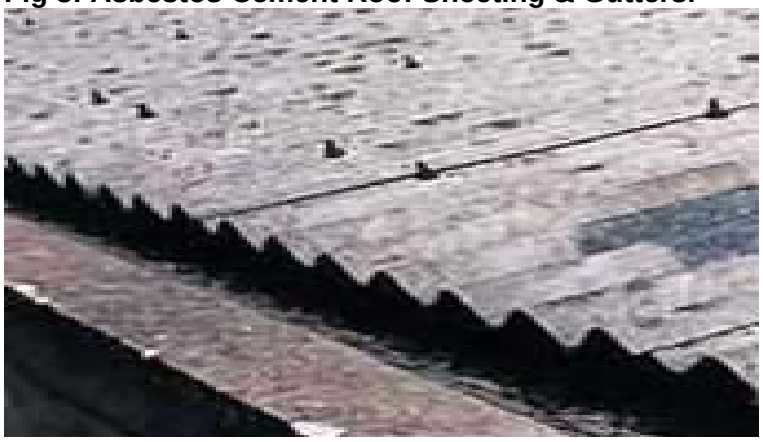


Fig 8: Asbestos Cement Roof Sheeting & Gutters.



3.0 MANAGING CONSTRUCTION/REFURBISHMENT WORKS

The Safety, Health and Welfare at Work (Construction) Regulations 2006 places a duty on Architects/Project Supervisor Design Process to provide, by way of a Preliminary Safety and Health Plan, adequate information to contractors or others to enable them to execute projects in a safe and healthy manner. These provisions are supported by the requirement of the Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 which places a duty on the Board of Management to identify and control all asbestos containing materials which may be present. The identification of asbestos materials should always be undertaken prior to the design stage of a project.

3.1 Are Pre-Work Asbestos Surveys Mandatory?

Yes in all circumstances. The Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006 require pre-work surveys where the possibility of asbestos disturbance exists. Irrespective of any previous surveys undertaken in the school, such as a Type 2 Survey, the Regulations require a detailed intrusive survey to be undertaken prior to the commencement of any project.

If you are involved in the design of refurbishment works, demolition or mechanical/electrical upgrades then you should contact the Health and Safety Unit and request a Pre-Refurbishment/Demolition survey as part of the design process.

In all circumstances, it is essential that Architects and Designers ensure that sufficient time is allowed for the completion of a Pre-Refurbishment/Demolition survey and that this survey is requested and completed prior to the tender stage of the project.

3.2 Organising a Pre-Refurbishment/Demolition Asbestos Survey

The Pre Refurbishment/Demolition survey is a detailed sampling strategy to identify any visible or concealed asbestos materials which could be disturbed by proposed works in the School. **It is vital that the survey is undertaken at the earliest possible stage of the design process as the estimated cost of removal/replacement will have to be included in the tendering package**.

To request a Pre-Refurbishment/Demolition survey the Board of Management, or a person acting on behalf of the Board, can download the appropriate form from the Department of Education and Science web site www.education.ie or by accessing the following link www.education.ie/servlet/blobservlet/pbu_asbestos_application_2010.doc or by e-mailing the OPW Health and Safety Unit Head Office at asbestos@opw.ie .

Remember: A Pre-Refurbishment/Demolition Asbestos Survey is mandatory at the Design Stage. Do not proceed until a copy of the Pre-Refurbishment/Demolition Asbestos Register is received.

3.3 The role of OPW

OPW's role is to ensure that School Boards of Management are managing the removal of asbestos materials in a safe way that is not detrimental to health. It is primarily a monitoring and management role. The following steps will be taken by OPW to help ensure that the asbestos removal elements of a works contract are completed in line with current Regulation.

1. Pre-refurbishment/Demolition Survey will be completed by OPW in advance of works, and particularly in conjunction with any design work being undertaken by the School Board of Management or their architects/engineers.

2. The School Board of Management will formally request the survey from OPW on standard form, available on the Department of Education and Science web site. The request can be submitted by e-mail or fax. OPW will initiate the survey and refer to competent asbestos consultant.

3. OPW consultant will prepare a specification for the removal of asbestos materials to be included in the tender documentation for the works prepared by the School's architect/engineer, along with an insert for Preliminary Health and Safety Plan for the PSDP for the project.

4. School Board of Management must notify OPW consultant when asbestos removal works have started on site, and one site visit will be undertaken to ensure that work is being completed to standard. Further site visits may be carried out if deemed necessary.

5. Final air clearance test undertaken by OPW consultant and updated asbestos register forwarded to Board of Management and OPW.

3.4 The Survey Process

Upon receipt of the survey request the Office of Public Works will appoint a competent consultant to undertake the Pre-Refurbishment/Demolition survey. The appointed company will contact the School directly and make arrangements for accessing the building.

Once the survey is completed and samples from the structure are analysed, a detailed report will be issued to the Board of Management by the Office of Public Works. The report will include an Asbestos Register which will highlight any asbestos

hazards and specify actions to be taken to eliminate or control the hazard and avoid accidental disturbance.

In cases where urgent remedial works or further monitoring are necessary, the Office of Public Works will instigate all appropriate actions.

The Pre-Refurbishment/Demolition Asbestos Survey Report must be passed on to the appointed Architect or other person appointed by the Board of Management for the purpose of managing the proposed works in the School.

4.0 ASBESTOS MANAGEMENT PROCEDURES

4.1 Risk Evaluation

The Pre-Refurbishment/Demolition Asbestos Survey Reports include a risk evaluation of identified asbestos materials which is based on an assessment of the likelihood of fibre release during the course of the proposed works in the School. This is most likely to occur where:

- The asbestos material is in a position where impact damage or disturbance is likely during the course of the proposed works.
- Demolition or disturbance of the material is necessary during refurbishment or building service works.
- The surface of the material is damaged, frayed, or loose.
- Sprayed materials are peeling or breaking.
- Lagging materials are becoming detached.
- Encapsulating materials or covers are missing or removed.
- Evidence of asbestos dust is present.

Generally the survey, sampling and analysis will conform to the guidance contained in the

- UK Health & Safety Executive HSG 264 Asbestos: The Survey Guide and
- the Health and Safety Executive's Asbestos: The Analysts Guide for Sampling, Analysis and Clearance Procedures.

4.2 Asbestos Abatement Strategies

Upon completion of the risk evaluation procedure the surveyor will recommend one of the following control options:

- Manage the asbestos in situ.
- Repair the asbestos material.
- Encapsulate the asbestos material.
- Remove the asbestos material.

4.3 Managing Asbestos Materials Left in Situ

In cases where the asbestos material is in good condition, and is not likely to be disturbed during the course of the proposed works, leaving the material in place may be the safest course of action to take. This strategy is dependent on sound management of the material to prevent damage and possible fibre release at some future date. Where a decision is taken to manage asbestos in situ the OPW Health & Safety Unit should ensure that:

- The location and type of asbestos is recorded in an Asbestos Register for that building
- The Board of management is given a copy of the relevant Asbestos Register.

The Board of Management should ensure that:

- A copy of the Asbestos Register is given to any designer, contractor or other person engaged on any works likely to disturb the identified asbestos materials.
- Warning labels are securely affixed to the material in a position which gives adequate warning to prevent accidental damage.
- Regular inspections are carried out by a competent person to verify the integrity of the identified asbestos material.

4.4 Repairs/Encapsulation to Damaged Asbestos Materials

In some situations the decision to leave asbestos in place may require repairs to slightly damaged lagging, boards or sheeting. Such repairs will only be undertaken if the long-term assessment identifies a low risk of accidental damage or disturbance. Where a decision is taken to repair asbestos materials the Health and Safety Unit in consultation with the Board of Management will ensure that:

- The risk of fibre release is clearly assessed.
- Air monitoring is carried out to determine if asbestos fibres are present in respirable air.
- The repairs are carried out by an approved contractor.
- Details of the material are included in the Asbestos Register for that building.
- A copy of the Asbestos Register is given to any designer, contractor or other person engaged on any works likely to disturb the identified asbestos materials.
- Labels are securely affixed to the material to prevent accidental damage or disturbance.
- Regular inspections are carried out to ensure that the material is maintained in a safe condition.

4.5 Removal of Asbestos Materials

The removal of asbestos materials will in the majority of cases be the only viable strategy especially where:

- The material is damaged to a degree where fibre release is likely.
- Foreseeable or proposed works may disturb the identified asbestos materials.
- Demolition of the material is necessary for refurbishment works.
- Accidental damage is not foreseeable but could possibly occur.

4.6 Managing Asbestos Removal Works

4.6.1 Procedures for Non-Planned Works and Accidental Damage.

In the case of non planned projects or accidental damage The Office of Public Works Health and Safety Unit will be responsible for the co-ordination of all asbestos removal works and will adhere to the following procedures:

1. Make the appropriate appointment of Project Supervisor Design Process in accordance with the Safety Health and Welfare at Work Construction Regulations 2006.
2. Prepare, or have prepared, a documented specification and Preliminary Safety and Health Plan for the works, which specifies the nature of the removal operation, and the standards to be applied in terms of statutory conformance.
3. Select a competent asbestos removal contractor to carry out the works.
4. Make the appropriate appointment of Project Supervisor Construction Process in accordance with the Safety Health and Welfare at Work Construction Regulations 2006.

5. Ensure that the contractor:
    - Prepares a site-specific Work Plan in accordance with the Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006.
    - Forwards the required 14-day notification, including a copy of the Work Plan, to the Health and Safety Authority before commencing removal works
    - Agrees the sequence and duration of the works.
6. Communicates the degree, nature and duration of the works to all relevant School personnel and the occupiers of the building; liaise with the occupiers of the building should evacuation be necessary or where part of a building has to be sealed off.
7. Co-ordinates all necessary pre-removal works including the provision of services to the contractor as necessary.
8. Appoints an independent laboratory for the purpose of undertaking air sampling, project monitoring and Clearance Certification in conformance with ISO 17025 *General Requirements for the Competence of Testing and Calibration Laboratories*.
9. Validates that C1 Consignment Note Certification of waste has been issued for the site.
10. Notifies relevant personnel that the works are completed and that the area is certified as safe for normal occupation to resume, or for other works to proceed.
11. Ensure that copies of the following documents are retained on file:
    - Bulk sample results as applicable.
    - Asbestos Register.
    - Preliminary Safety & Health Plan and Specification.
    - Contractor Work Plan.
    - Notification to the Health and Safety Authority.
    - Air monitoring results prior to removal works commencing.
    - Air monitoring results during removal works.
    - Clearance certification.
    - Consignment Note for the disposal of contaminated waste.

4.6.2 Procedures for Major Building Projects/Planned Projects/Summer Works Scheme

Stage 1

In the case of planned construction or mechanical and electrical projects, Summer Work Scheme projects or similar funded by the Department of Education and Skills the **Board of Management will:**

- Request a Pre Refurbishment/Demolition Asbestos Survey from the OPW Health and Safety Unit.
- Make the appropriate appointment of the Architect, or Consultant, as Project Supervisor Design Process in accordance with the Safety Health and Welfare at Work Construction Regulations 2006.
- Ensure that the appointed Project Supervisor Design Process carries adequate insurance cover in relation to the removal of the asbestos materials.
- Hand over a copy of the Pre-Refurbishment/Demolition Asbestos Survey Report to the Project Supervisor Design Process

Stage 2

The Architect/Project Supervisor Design Process will:

- Prepare, or have prepared, a documented specification and Preliminary Safety and Health Plan for the works, which specifies the nature of the asbestos removal operation, and the standards to be applied in terms of statutory conformance. The Office of Public Works will provide additional information to facilitate this.

- **The Board of Management(BOM) must revert to the Department of Education & Science (DoES) before an asbestos contractor is engaged in order to obtain DoES approval of any increased costs. The Board of Management must revert to the person who approved the original DoES grant-aided works to seek any necessary Asbestos Related additional funding.**

- Select a competent asbestos removal contractor to carry out the works. A list of approved asbestos removal contractors can be obtained from the Office of Public Works' Health and Safety Unit.

Stage 3

The Board of Management will

- Make the appropriate appointment of Project Supervisor Construction Process in accordance with the Safety Health and Welfare at Work Construction Regulations 2006.

Stage 4

The Architect/Project Supervisor Design Process will:

Ensure that the contractor:

- Prepares a site-specific Work Plan in accordance with the Safety Health and Welfare at Work (Exposure to Asbestos) Regulations 2006.
- Forwards the required 14-day notification, including a copy of the Work Plan, to the Health and Safety Authority before commencing removal works
- Agrees the sequence and duration of the works prior to works commencing on site
- Communicates the degree, nature and duration of the works to all relevant School personnel and the occupiers of the building; liaise with the occupiers of the building should evacuation be necessary or where part of a building has to be sealed off.
- Co-ordinates all necessary pre-removal works including the provision of services to the contractor as necessary.

The Architect/Project Supervisor Design Process will:

- appoint an Independent Accredited Laboratory for the purpose of undertaking air sampling, project monitoring and Clearance Certification in conformance with ISO 17025 *General Requirements for the Competence of Testing and Calibration Laboratories*.
- Validate in conjunction with the competent laboratory that C1 Consignment Note Certification of waste has been issued for the site.
- Notifiy relevant personnel that the works are completed and that the area is certified as safe for normal occupation to resume, or for other works to proceed.
- Ensure that copies of the following documents are retained for inclusion in the Safety File:
    - Bulk sample results as applicable.
    - Amended Asbestos Register.
    - Preliminary Safety & Health Plan and Specification.
    - Contractor Work Plan.
    - Notification to the Health and Safety Authority.
    - Air monitoring results prior to removal works commencing.
    - Air monitoring results during removal works.
    - Clearance certification.
    - Consignment Note for the disposal of contaminated waste.

4.6.3 Role of the Asbestos Removal Contractor.

The asbestos removal contractor appointed by the Architect/Project Supervisor Design Process will ensure that:

- Removal works comply with the safe working procedures outlined in his Work Plan and that any breach of safe working procedures is reported to the Architect/Project Supervisor Design.
- The Work Plan is validated against the specification and Preliminary Safety & Health Plan for the works.
- Enclosures are air tight and are smoke tested by the contractor prior to work commencing and at regular intervals thereafter.
- Decontamination facilities are maintained on an ongoing basis.
- Negative pressure units are inspected by the contractor daily.
- Transit procedures are fully implemented and supervised.
- General supervision of the works is carried out daily.
- Contaminated waste is stored in a secure and suitable facility prior to removal from site.
- Daily air monitoring is carried out, by an Independent Accredited Laboratory, in locations external to the removal zone.
- General site security is such as to prevent accidental incursions into the removal zone.
- The Independent Accredited Laboratory certifies clearance of the area on completion of the removal works.

4.6.4 Dealing with Emergency Situations

Where construction works result in the accidental damage of asbestos materials the following procedures should be followed:

1. The area shall be evacuated and cordoned off to prevent re-entry.
2. Inform the Office of Public Works Health and Safety Unit of the nature of the emergency.
3. Upon receipt of the notification the Health and Safety Unit will arrange for
   - an assessment of any contamination by a competent person.
   - Notification to the Health and Safety Authority of the nature of the emergency, if appropriate.
   - The selection of a competent contractor, where appropriate, to undertake all necessary removal and decontamination works.
   - Air monitoring and final clearance certification.

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Remember: If in doubt, contact the Office of Public Works Health and Safety Unit for advice

APPENDIX 1

BOARD OF MANAGEMENT (BOM)

PROJECT MANAGEMENT REMINDER LIST

PROJECT APPROVED BY DoES

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REQUEST PRE-REFURBISHMENT/DEMOLITION SURVEY FROM OPW

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IF ASBESTOS PRESENT- FORWARD SURVEY REPORT AND ASBESTOS REGISTER TO ARCHITECT/CONSULTANT

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APPOINT ARCHITECT/CONSULTANT AS PROJECT SUPERVISOR DESIGN PROCESS

BOM TO REVERT TO DoES BEFORE ASBESTOS CONTRACTOR ENGAGED IN ORDER TO OBTAIN DoES APPROVAL OF ANY ASBESTOS RELATED COSTS.

POST TENDER - APPOINT CONTRACTOR AS PROJECT SUPERVISOR CONSTRUCTION STAGE

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POST ASBESTOS REMOVAL WORKS - TAKE CHARGE OF SAFETY FILE INSERTS FROM ARCHITECT INCLUDING:

Asbestos Clearance Certification.

Air Monitoring Certification.

Waste Disposal Certification.

Updated Asbestos Register.

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ASBESTOS REMOVAL WORKS COMPLETE.

IMPORTANT NOTE: IF IN DOUBT CONTACT OPW HEALTH AND SAFETY UNIT:

Tel: (01) 6476000, 6476222, 6476261 & 6476447
Fax: (01) 6613104
Email: asbestos@opw.ie

APPENDIX 2

Sample Asbestos Register

Client: Office of Public Works			Site Location:			Survey date:		
Area Surveyed.	Location and Use of Material.	Quantity (Approx)	Asbestos Type.	Condition	Material Assessment	Action to be taken	Priority Assessment	Next Assessment

Estimated Costs	Location of Samples	Analysis.	Sample Reference

Glossary	
NAD	No asbestos detected
MMMF	Man made mineral fibre

*Asbestos fibre type	Commonly known as
Chrysotile	White asbestos
Amosite	Brown asbestos
Crocidolite	Blue asbestos

*Quantity	Visual assessment of sample
Trace	less than 2%
Significant	2% - 50%
Substantial	more than 50%