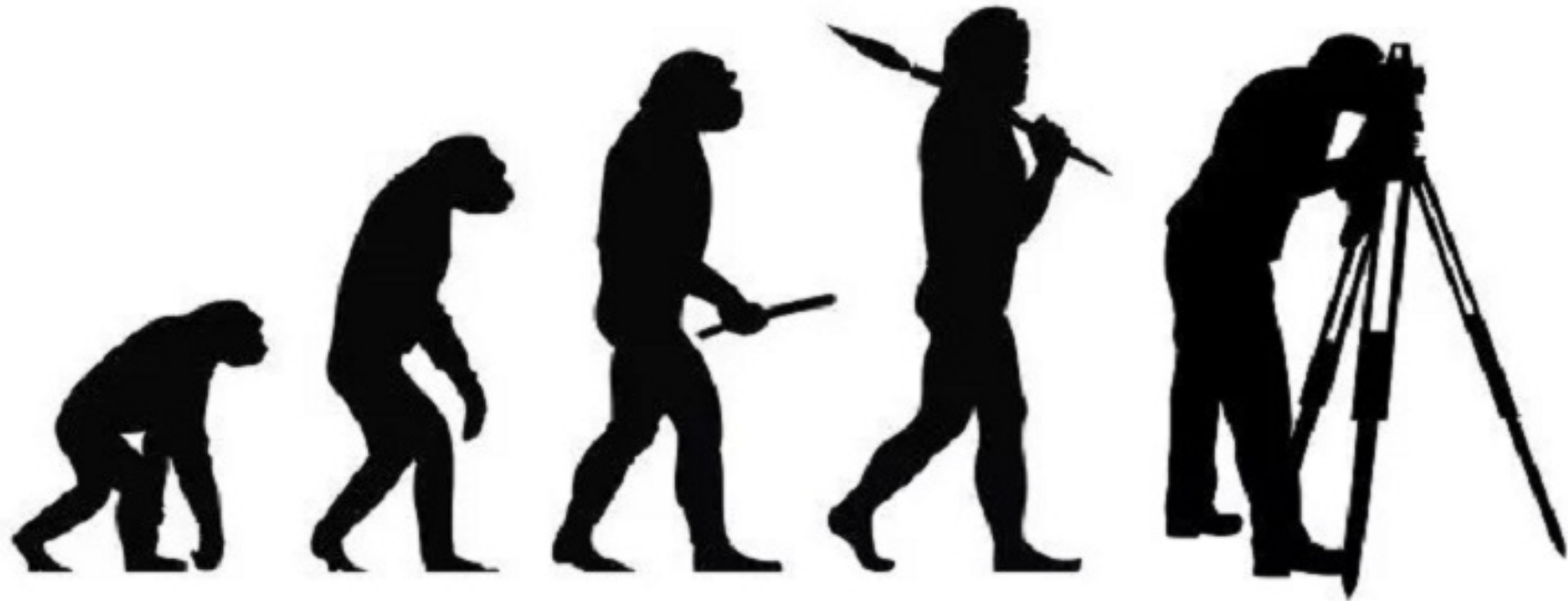


Register on line

<https://digimap.edina.ac.uk/>

Lecture 5: Digital Surveying



<https://www.satpalda.com/blogs/evolution-in-surveying-techniques>



Surveying Today - What are the Five Main Areas on Surveyors Work?

- Research, analysis, and decision making.
- Field work {Data acquisition}.
- Computing {Data processing}.
- Mapping {Data representation}.
- Stake-out / Setting out

PLANNING

Research, analysis, and decision making.

Health and safety at work: criminal and civil law

1. Overview
2. [Health and Safety at Work Act](#)
3. [Criminal and civil law](#)

1. Overview

There are 2 parts to the law – civil and criminal. They're not the same.

As an employer, you must protect your workers and others from getting hurt or ill through work.

If you don't:

- a regulator such as the Health and Safety Executive or local authority may take action against you under [criminal law](#)
- the person affected may make a claim for compensation against you under [civil law](#)

Neither the Health and Safety Executive nor local authorities enforce civil law or set the rules for the conduct of civil cases.

<http://www.hse.gov.uk>

2. The Health and Safety at Work Act

The Health and Safety at Work etc Act 1974 is the main legislation covering occupational health and safety in Great Britain.

It's sometimes called HSWA, the HSW Act, the 1974 Act or HASAWA.

You can read the act in full on the legislation.gov.uk website

The objectives of the act include:

- securing the health, safety and welfare of people at work
- protecting others against risks to health or safety relating to the activities of people at work
- controlling the keeping and use of dangerous substances

Other acts cover specific industries and activities.

Regulations

Regulations are law, approved by Parliament which are made under an act.

Certain industries and work have specific regulations, such as:

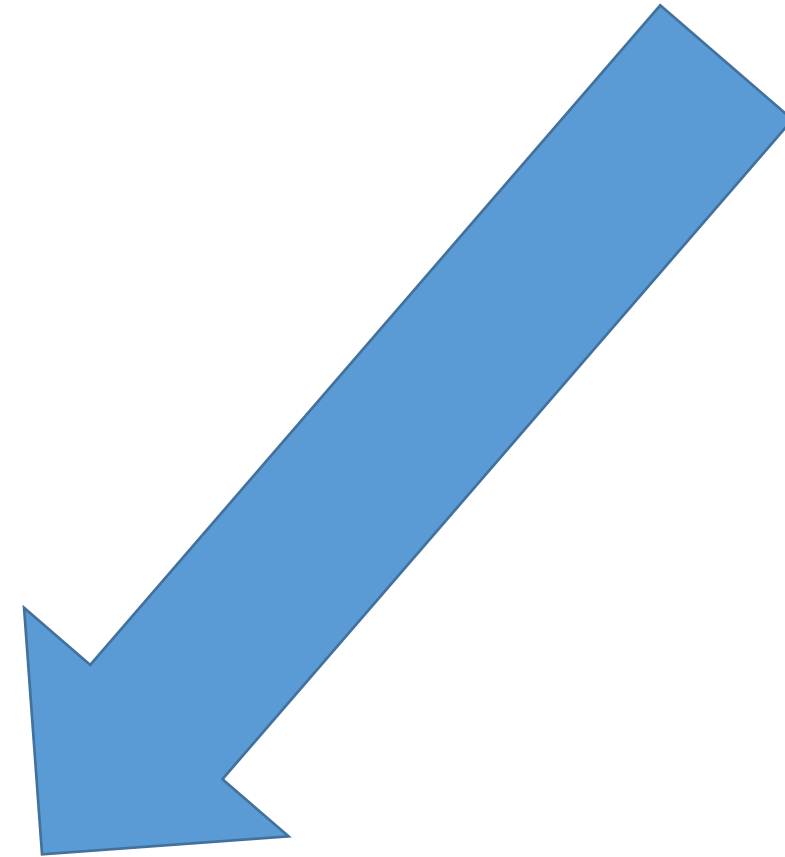
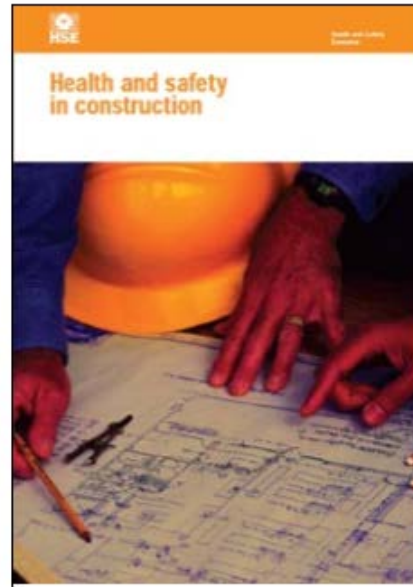
- managing health and safety in construction
- manual handling
- managing and working with asbestos

In practice, to comply with the act and regulations, you must control the risks in your workplace and keep on top of how you do it. For basic information on how to do this, go to [Health and safety made simple](#).

The Construction (Design and Management) Regulations 2015 (CDM 2015) came into force on 6 April 2015, replacing CDM 2007



L153
Published 2015



<http://www.hse.gov.uk/construction/index.htm>

Why is asbestos dangerous?

- Asbestos still kills around 5000 workers each year, this is more than the number of people killed on the road.
- Around 20 tradesman die each week as a result of past exposure
- However, asbestos is not just a problem of the past. It can be present today in any building built or refurbished before the year 2000.

When materials that contain asbestos are disturbed or damaged, fibres are released into the air. When these fibres are inhaled they can cause serious diseases. These diseases will not affect you immediately; they often take a long time to develop, but once diagnosed, it is often too late to do anything. This is why it is important that you protect yourself now.

Mesothelioma

Mesothelioma is a cancer which affects the lining of the lungs (pleura) and the lining surrounding the lower digestive tract (peritoneum). It is almost exclusively related to asbestos exposure and by the time it is diagnosed, it is almost always fatal.



Asbestos-related lung cancer

Asbestos-related lung cancer is the same as (looks the same as) lung cancer caused by smoking and other causes. It is estimated that there is around one lung cancer for every mesothelioma death.



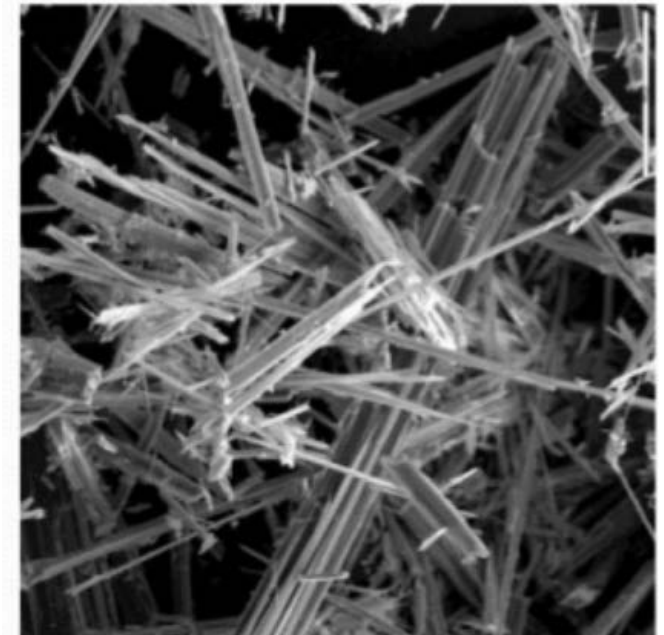
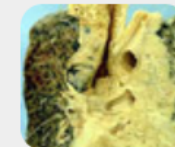
Asbestosis

Asbestosis is a serious scarring condition of the lung that normally occurs after heavy exposure to asbestos over many years. This condition can cause progressive shortness of breath, and in severe cases can be fatal.



Pleural thickening

Pleural thickening is generally a problem that happens after heavy asbestos exposure. The lining of the lung (pleura) thickens and swells. If this gets worse, the lung itself can be squeezed, and can cause shortness of breath and discomfort in the chest.



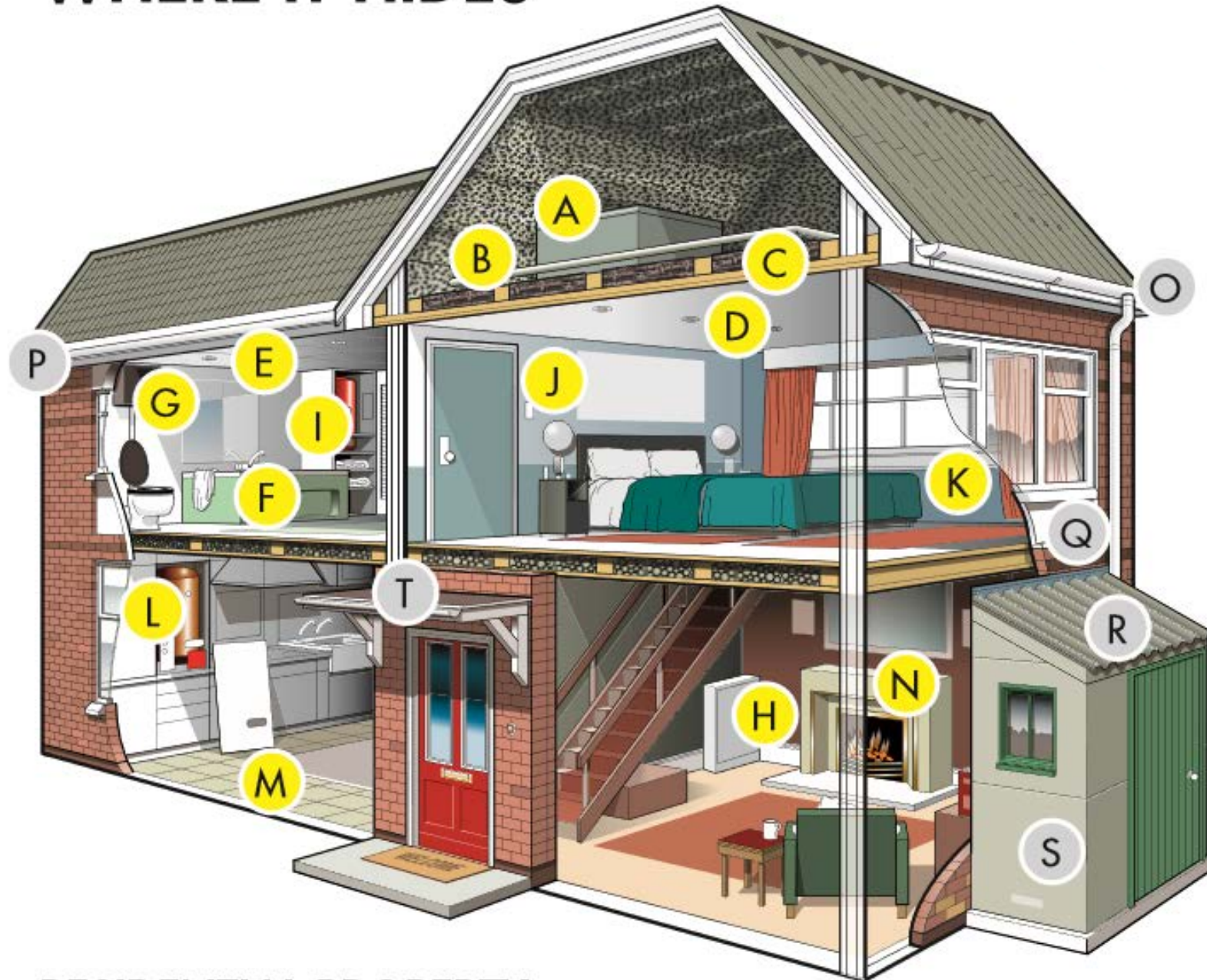
Asbestos Materials

The degree of risk associated with an ACM is dependant on the ease in which the fibres are released into the air.

This is know as:

FRIABILITY

WHERE IT HIDES



RESIDENTIAL PROPERTY

Inside

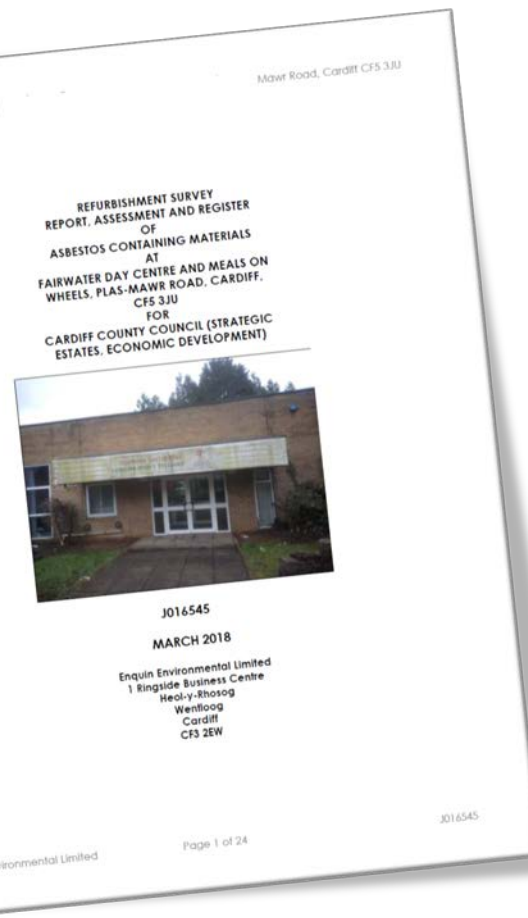
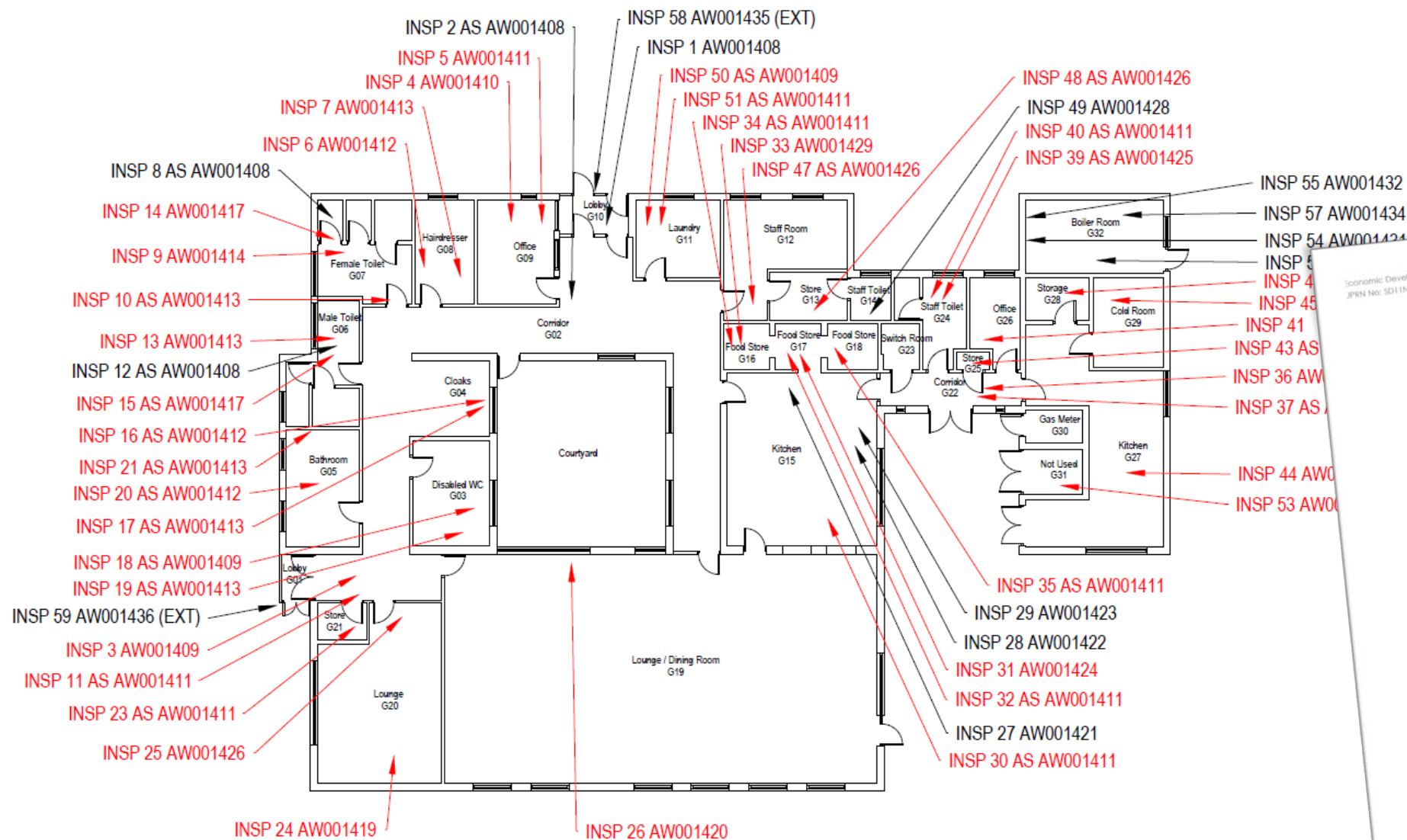
- A** Asbestos cement water tank
- B** Pipe lagging
- C** Loose fill insulation
- D** Textured decorative coating e.g. Artex
- E** AIB ceiling tiles
- F** AIB bath panel
- G** Toilet seat and cistern
- H** AIB behind fuse box
- I** AIB airing cupboard and/or sprayed insulation coating on boiler and hot water tank
- J** AIB partition wall
- K** AIB interior window panel
- L** AIB around boiler, storage heaters and warm air heating systems
- M** Vinyl floor tiles
- N** AIB behind fire

Outside

- O** Asbestos cement gutters and downpipes
- P** Soffits – AIB or asbestos cement
- Q** AIB exterior window panel
- R** Asbestos cement roof
- S** Asbestos cement panels
- T** Roofing felt

AIB = Asbestos insulating board

Key: ● or —

ASBESTOSSEE REPORT FOR DETAILS &
COUNCIL POLICY FOR GUIDANCE**CAUTION**IT MUST BE ASSUMED THAT
PLASTIC FLOOR TILES & ARTED
FINISHES CONTAIN ASBESTOS



PLANNING

Research, analysis,
and decision making.

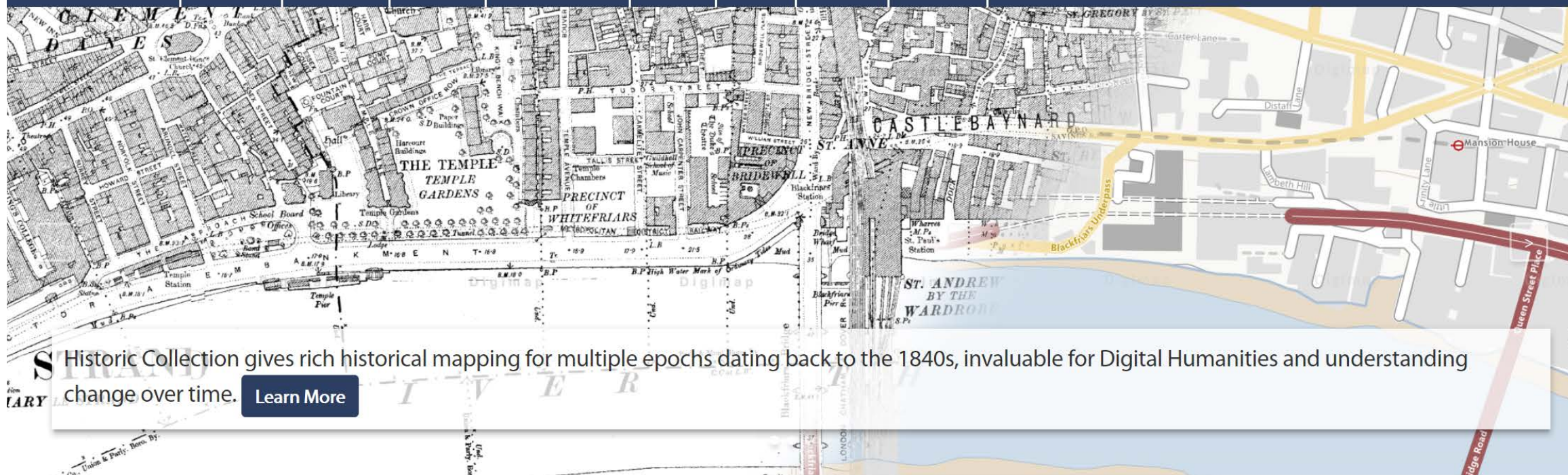
List groups or people especially at risk from the significant hazards which you have identified:	RISK	List existing controls here – or note where the information may be found:	Describe the action needed to improve matters where it is reasonably practicable to do more to control risks. Specify also the target date for action and the person to action.	Residual risk
Office staff	Med	Staff required to observe corporate policy on use of ladders. Code of Guidance on use of Ladders Existing rules to be observed when using ladders for surveys:- - Ladders to be used in low risk situations for a short duration of time ~~is~~ not exceeding 30mins and for access only - Avoid use if practicable, consider use of alternatives e.g towers, scaffolding, Mobile elevating work platforms (MEWPs). - Ladders to be prevented from use by unauthorised people e.g in particular care should be taken when using ladders in school environments. - Minimum of two people to undertake survey that involves use of ladder. - Ladders to be lashed whenever possible, if not, then ladder to be footed / restrained at all times. - Ladders not to be used in windy, icy or inclement weather. - Ensure surfaces are level and non slip. - Do not impose any side loading on ladder. - Ladder should be erected at an angle of 1 : 4. - Ladder shall extend 1.075m above the exit level. - Use rucksack/shoulder bag. Do not carry anything in hands when climbing ladder. - Staff attention drawn to HSE guidance available at: http://www.hse.gov.uk/pubns/indg455.pdf	Staff awareness training required. Action by management team by May 2019 In house ladders maintained by the structural section to be periodically checked by structural section. Record findings of inspection. May 2019	low
Use of ladders by young or inexperienced staff	High	Work experience school pupils are not permitted to use ladders. Inexperienced staff to be supervised by responsible person at all times.	Responsible person in charge of supervising young or inexperienced staff shall ensure that they are aware of the requirements in the code of guidance and Work Instruction 3.PDD.DC.03	low



**What existing information is
available ?**

- As built drawings
- Building File / O&M Manuals
- Original Property deeds
- Previous planning applications / building regulation work
- Fire plans
- Asbestos register plans
- OS Data / Historic Maps / Topography



[Ordnance Survey](#)[Historic](#)[Geology](#)[Marine](#)[Environment](#)[Aerial](#)[Lidar](#)[Global](#)[Society](#)

Historic Collection gives rich historical mapping for multiple epochs dating back to the 1840s, invaluable for Digital Humanities and understanding change over time. [Learn More](#)

What is Digimap?

Digimap is an online map and data delivery service, available by subscription to UK Higher and Further Education establishments. Operated by EDINA at the University of Edinburgh, Digimap offers a number of data collections, including Ordnance Survey, historical, geological, LiDAR and marine maps and spatial data.

What are we offering?

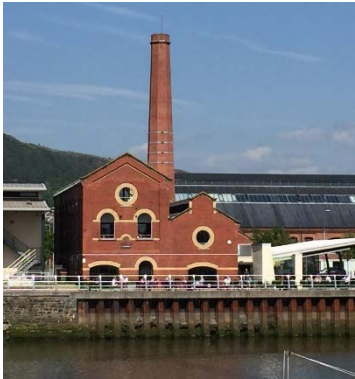
Digimap offers access to a range of datasets for the purposes of education and research. Create or interrogate a map online by selecting an appropriate base map, adding annotations and customising the content, use measurement and query tools to learn more about any study area. Download the raw spatial data in a wide range of formats for use in local GIS, CAD or image processing software.

Subscription Information

Digimap is available to members of subscribing higher and further education institutions in the UK. Individual registration is required, but the service is free at the point of use. More information about subscription fees can be found on our [website](#).

<https://digimap.edina.ac.uk/>

Ice House
Swansea
Marina

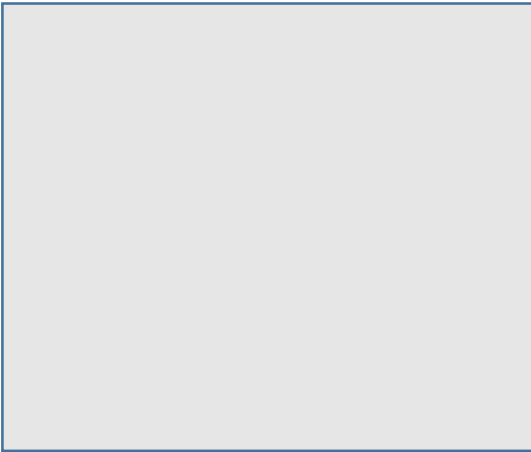
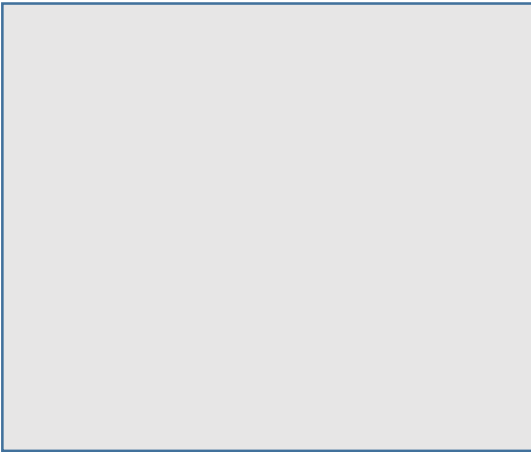
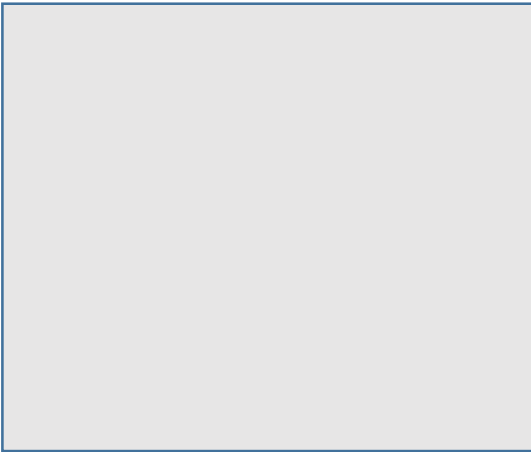
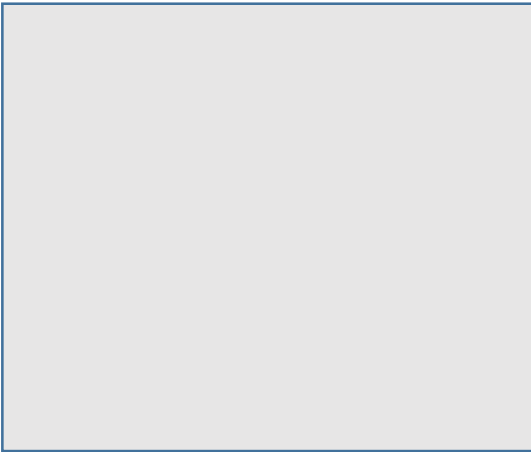


Or

Pier Head
Building
Cardiff
Bay



DIGITAL SURVEYING
PRACTICAL EXERCISE. (Use of DIGIMAP)



DIGIMAP
Survey Data in DWG format in that
rs
p is TIFF format.
s sheet, and complete the details below
(be labelled Not to scale)

MODULE NUMBER: ACBA 4002
MODULE NAME: DIGITAL SURVEYING
STUDENT NAME:

THIS DRAWING SHOWS:

BUILDING NAME:

DATE OF CONSTRUCTION:

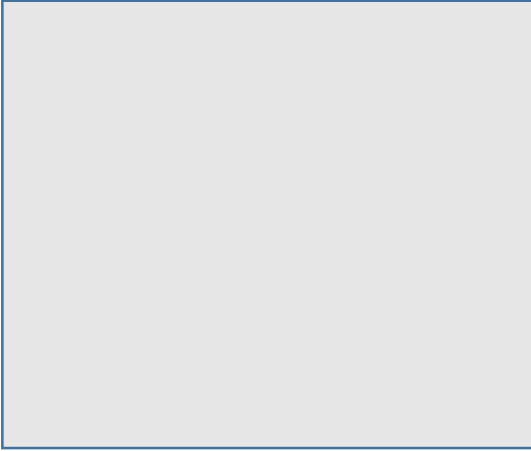
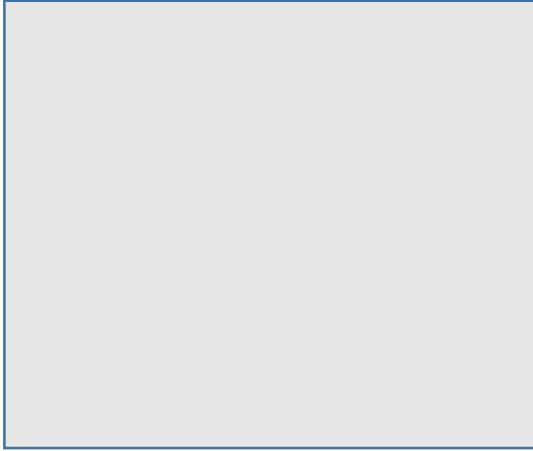
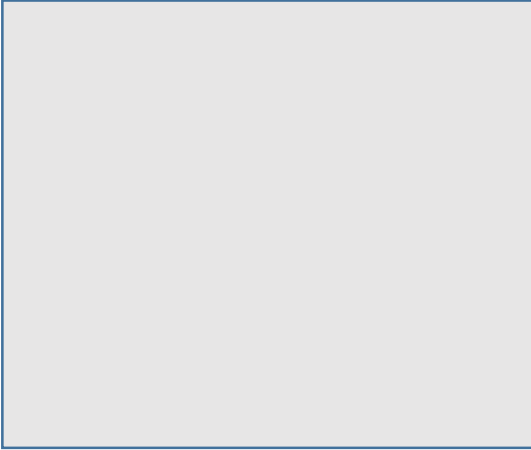
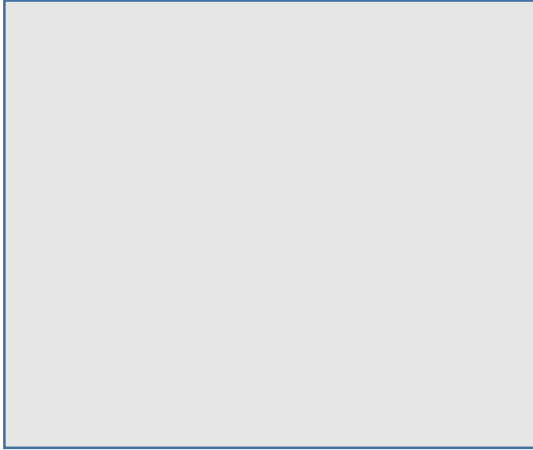
DESCRIPTION OF BUILDING:



Your House / Parent / Grandparent's House

- OS Topography
- Building Height
- OS Terrain Contour
- Historic Map

Highlight the house on all plans.

DIGITAL SURVEYING PRACTICAL EXERCISE. (Use of DIGIMAP)			
		DIGIMAP Survey Data in DWG format in that rs p is TIFF format. s sheet, and complete the details below be labelled Not to scale)	
			
MODULE NUMBER: ACBA 4002 MODULE NAME: DIGITAL SURVEYING STUDENT NAME:	THIS DRAWING SHOWS:	BUILDING NAME: DATE OF CONSTRUCTION:	DESCRIPTION OF BUILDING: 

Search [coordinates, postcodes...]

My Previous Downloads

Historic Data Download

Select Area of Interest

Draw [] Modify [] Delete []

Use Coordinates Select Visible Area

Use Tile Name Import Polygons

Select Data Products

Filter Products

Product	Order Size
County Series 1:2 500 (1853-1951) (0 selected)	
County Series 1:10 560 (1846-1969) (0 selected)	
National Grid 1:1 250 (1943-1993) (0 selected)	
National Grid 1:2 500 (1943-1995) (0 selected)	
National Grid 1:10 000 (1958-1996) (0 selected)	
National Grid 1:10 560 (1948-1992) (0 selected)	
Town Plans 1:500 (1856-1911) (0 selected)	
Town Plans 1:528 (1851-1895) (0 selected)	
Town Plans 1:1056 (1848-1939) (0 selected)	

Reference Grids

Current selection: 0.00 km²

Add To Basket Basket/Checkout (0 items)

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Make sure you select
HISTORIC DATA Download

Available Maps in
TIFF format are
available on the
left menu.

Draw a Region

And

Add to Basket

Available in TIFF format (image)

Search for places, coords, postcodes...

My Previous Downloads

OS Data Download

Select your Interest

Draw [icon] Modify [icon] Delete [icon]

Use Coordinates Select Visible Area

Use Tile Name Import Polygons

Select Data Products

Filter Products

Product	Order Size
OS MasterMap	(0 selected)
Backdrop Mapping	(0 selected)
Land and Height Data	(0 selected)
Vector Data	(0 selected)
Boundary and Location Data	(0 selected)
Archived Datasets	(0 selected)

Reference Grids

Current selection: 0.00 km²

Add To Basket Basket/Checkout (0 items)

<https://digimap.edina.ac.uk/>

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Make sure you select
OS DATA Download

OS Master Map contains:

- Topography
- 3D Buildings

Land and Height Data contains:

- OS Terrain Contours 5

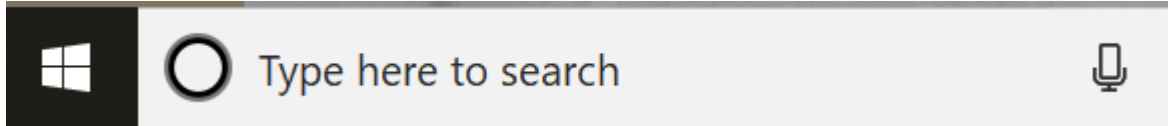
Draw a Region

And

Add to Basket

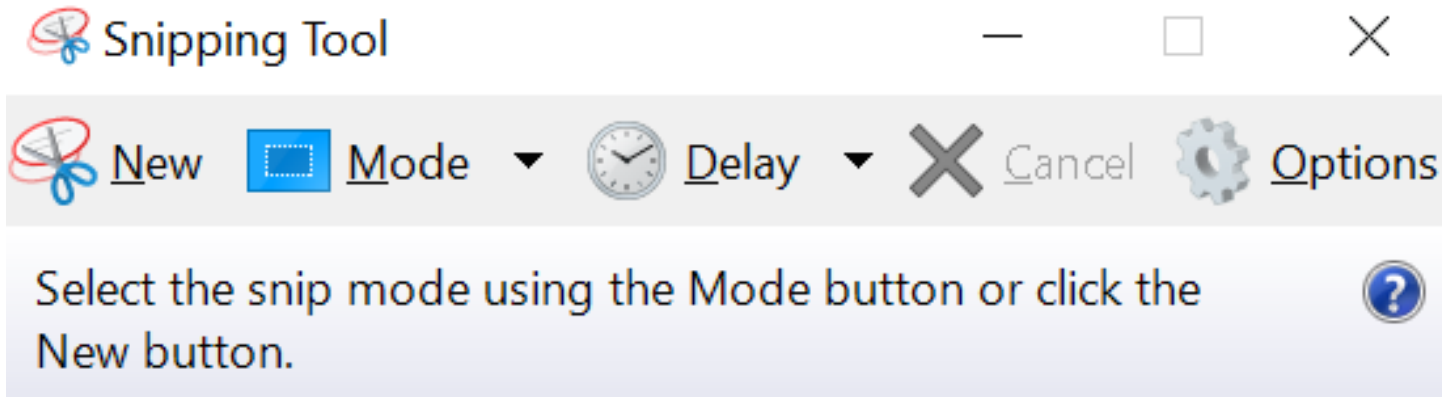
Available in DWG format (CAD file)

Using Snipping Tool for screen capture for Windows.



Type 'SNIPPING' in the Windows Search Bar.

Double click on the Snipping App to launch.



Click New – and draw a rectangle around the area you want to capture on screen

Once captured – right click to copy / paste

Or go to 'FILE' within the Snipping Tool menus bar and 'SAVE' image.