

# GUIDE TO BUILDING MAINTENANCE IN A CHANGING CLIMATE



**Edinburgh  
Adapts**



## Contents

Edinburgh's changing climate	2
What effect is climate change having on our city?	4
What is maintenance?	6
Why maintain?	8
Responsibility for building maintenance	10
How to organise your maintenance plan	14
Maintenance checklist and calendar	27
Finding a professional and a builder	29
Further information	30
Advice	31
Glossary	32

## Edinburgh's changing climate

The city of Edinburgh is already feeling the effect of climate change. The weather conditions that were normal 20 years ago are no longer normal and unprecedented weather conditions are becoming more likely.

Compared to 1961 to 1990, between 1981 and 2010 the winters have been up to 4% wetter, the average summer daytime temperatures have increased by 0.75°C, heavy rain days have increased in frequency and intensity and sea levels have risen. No matter how hard we all work together to reduce the causes of climate change, we need to prepare for its already unavoidable impacts. Although the long-term impact of climate change on Edinburgh will depend on the success of global mitigation efforts, even a relatively modest increase in average temperatures is likely to bring significant change. By the 2070s it is anticipated that average temperatures, precipitation and sea levels will change.

Anticipated climate change in Central Scotland by the 2070s – a greater chance of hotter, drier summers and warmer, wetter winters.



Data from MetOffice UKCP18 climate projections over land, based on the high emissions scenario. Results are for the 10th-90th percentile range for the 2060-2079 period relative to 1981-2000.



We must also recognise that climate averages do not tell the whole story. The weather from year to year is determined by the long-term trend of climate change and short-term natural variability. It is possible that in the future we will see conditions that are increasingly variable and unpredictable, season-to-season and year-to-year. This could lead to fluctuating temperatures and more frequent and prolonged periods of drought or above average rainfall. It is also likely that extreme weather events, like heat waves or heavy rainfall, will become more common. This means that in the future not all summers will be hot and dry, nor all winters warmer and wetter, even though this is the generally expected future trend.

The resilience of our historic and modern buildings to future climate change will be determined by their condition and crucially the effectiveness of their maintenance. The best way of protecting and maintaining buildings is to undertake systematic planned maintenance. Although this is seldom implemented, it has never been so important.

*One of the most important things we can do to help Edinburgh adapt and limit the impact of climate change on the buildings and monuments of our beautiful historic city is to undertake regular planned maintenance.*

# What effect is climate change having on our city?

Climate change will significantly increase the rate of deterioration of Edinburgh's historic buildings. The rate of decay is already increasing, as a result of gradual changes in our climate and increasingly frequent extreme weather events.

These day by day changes include:



### Increasing temperatures

- This will prolong the length of time growing conditions are suitable for bacteria. The rising temperatures may also encourage the arrival of new species such as wood-eating insects, which will lead to accelerating rates of decay as a result of biodegradation and insect attack.



### More sunshine and solar radiation

- Will reduce the longevity of materials which are degraded by ultra violet light such as bituminous felt roof finishes and plastic gutters and windows.
- Accelerate the degradation of painted finishes to timber elements such as sash and case window and doors.
- Historic wall coverings and painted finishes will become increasingly prone to discolouration, fading, cracking, loss of strength and disintegration.



### More rainfall and winter precipitation

- Will result in deeper penetration of water into building fabric. Masonry will remain saturated for longer periods which will increase physical and chemical stresses on stonework, increasing decay and vulnerability to frost damage.
- Will result in more weathering and decay, particularly at higher levels where chimney stacks on high tenements are exposed and vulnerable.



Degradation of wood cill



Stone decay at high level

As well as extreme events:



### Higher wind speeds

- The impact of storms will be heightened by other changes in our climate - for example saturation of masonry as a result of increased rainfall, combined with storm events may lead to structural failure where chimney stacks and other masonry features are in poor condition.



### An increase in periods of intense rainfall

- Existing rhones, downpipes and drains may struggle to cope with the predicted volumes and intensities of rainwater even if they are kept clean and free flowing, leading to greater risks of water penetration and damage to the structure and internal finishes.



### The existing condition of Edinburgh's buildings

- The natural materials used to build Edinburgh's traditional and historic buildings have a finite life span which will be reduced by the anticipated changes in our climate. A recent survey undertaken by Edinburgh World Heritage and the Society for the Protection of Ancient Buildings, identified that 72% of the buildings in the historic centre of Edinburgh are in need of significant repair due to a backlog of neglected maintenance work.

*Poorly maintained buildings will become increasingly vulnerable to damage caused by the increasing severity of the physical and chemical stresses imposed by the predicted changes to our climate.*

## What is maintenance?

Maintenance is defined as activities such as cleaning, painting and minor repairs which are carried out systematically, on a planned cycle, often year-to-year, and based on regular inspection.

Its main objective is to slow down the rate of decay of building fabric and is without doubt the most cost effective way to keep a building in good condition. Effective planned maintenance programmes will require:

- Owners to be aware of the condition of their building and the benefits of regular planned maintenance.
- Someone to take responsibility for organising meetings, inspections, surveys and maintenance work.
- Regular planned inspections and conditions surveys to be undertaken.
- Systematic planned maintenance works undertaken by trustworthy competent trade / crafts people.

*Good maintenance will prevent the need for expensive repairs and does not include replacement, alteration, demolition or improvement, unless the condition of a building has deteriorated to a stage where repairs are required to maintain the condition of the building in good order.*



The planned maintenance work will usually include:

- Regular cleaning of glass and windows.
- Regular painting of the windows and putty.
- Regular removal of vegetation and leaf mould from gutters and downpipes and from parapet gutters to ensure effective discharge of rainwater.
- Regular painting of cast-iron rainwater goods.
- Fitting of anti-bird installations if birds are problematic.
- Re-pointing of any cracked mortar pointing to flashings, skews and masonry.
- The removal of all grass, vegetation and woody plants from roofs, chimney stacks and external walls.
- Replacing missing, slipped and cracked slates.
- Ensuring that all ridge flashings or tiles are secure and cracked mortar skews and fillets repaired.
- Cleaning flues and ensuring that unused flues are ventilated at the top and bottom.
- Checking and clearing gullies and drains to make sure they freely drain storm water.

## Why maintain?

Simple and effective maintenance will save money and ensure that your property is climate ready.

You might think that your building will last a life time, deteriorating only slowly over time but this is not necessarily so, particularly as weather events become more extreme and destructive to its external fabric.

For many of us, our home will be the largest single investment we make, so it makes sense to ensure it remains a healthy and homely place to live or work in and maintains its value. Water penetration is the commonest cause of decay in buildings and is usually the result of simple problems such as defective guttering and downpipes that can easily be avoided with regular maintenance. The annual cleaning of gutters will be significantly cheaper than the cost of rectifying an outbreak of dry rot which is sure to happen if the fabric remains wet over a long period of time. There are many good reasons why a regular and a planned approach to building maintenance is so important:

### **It preserves our built heritage**

Regular upkeep enhances a building's appearance and retains original fabric and details, which will add value to the property and contribute to the interest and beauty of our city.

### **Saves money**

Systematic planned maintenance and minor repair works can be budgeted for in advance and will cost significantly less than a series of larger, unexpected payments for more significant repairs.

### **Conserves resources**

Regular inspection and maintenance ensures early detection of potentially serious problems. This is the most sustainable approach, limiting the need for new and often costly materials to be used.

### **Encourages guardianship**

Adopting a methodical planned approach to building maintenance gives more time to select and work with the best trades-person, save money and preserve the character and identity of your home and our city. In this way we can fulfil our responsibility to hand our historic buildings on to our children and future generations.

*“Every £1 ‘saved’ by not carrying out preventative maintenance could cost £20 in repairs within 5 years” (Society for the Protection of Ancient Buildings)*

*Just as cleaning your teeth twice a day avoids expensive and painful dental work to fill or replace decayed teeth the same applies to buildings. “Prevention is always better than cure”.*



Damaged stone window architrave

## Responsibility for building maintenance

We have a collective duty to care for and maintain our built and natural environment and to pass them on to future generations.

### Who is responsible for the maintenance of shared buildings?

Every proprietor has a legal duty to maintain the parts of a tenement (or shared property) that provides support and shelter.

Your title deeds should give details of the shared areas of your building and how to work out your share of the costs for any survey inspections, maintenance work or repairs. You can get a copy of your title deeds from either:

- The solicitor who did the conveyancing of your flat if you don't have a mortgage
- Your mortgage lender, or Registers of Scotland

The shared areas of a tenement are those elements that provide structural support and shelter and will usually include:

- the roof including finishes and structure
- gutters and downpipes
- external walls
- the foundations
- all elements of structure
- common stairs
- railings



Your title deeds should also clarify how decisions should be made, how costs are to be allocated between owners and arrangements for paying for the work and services. If this information is not included in your title deeds you should refer to **The Tenement (Scotland) Act 2004** which sets out rules to follow and procedures for dividing costs of repair and maintenance work to properties divided into two or more flats.

([www.legislation.gov.uk/asp/2004/11/crossheading/repairs-costs-and-access](http://www.legislation.gov.uk/asp/2004/11/crossheading/repairs-costs-and-access))



Railings in poor condition could be a danger and will further degrade if not repaired



Railings after repair

### Responsibility of landlords to maintain their building

In (shared buildings) flats and tenements, landlords share the responsibility with all other owners to maintain and repair any part of the building that provides, or is intended to provide, support or shelter including the common areas.

If it is not possible to find out the identity of a flat owned by a landlord, Registers of Scotland can provide the address given for the owner at the time he or she bought the flat. They may also be able to tell you of other properties in the same ownership. You will need to pay a small fee for each property search.

If the property is rented, then the owner should be registered with the council as a private landlord. You can search the public register at [www.landlordregistrationscotland.gov.uk](http://www.landlordregistrationscotland.gov.uk).

If you do not find what you are looking for, please contact the City of Edinburgh Council or where you think the person or company should be registered.

### Who pays?

Your title deeds usually tell you how costs are to be shared between owners, but if there are gaps or defects you should use the Tenement Management Scheme. You will become responsible for costs from the point when a joint decision is made or emergency work commissioned.

For more information refer to Common Repair, Common Sense Section 2:1: Title Deeds [www.gov.scot/Topics/Justice/law/17975/CommonRepair- CommonSense/ Rightsandresponsibilitiesoftenementflatowners](http://www.gov.scot/Topics/Justice/law/17975/CommonRepair-CommonSense/Rightsandresponsibilitiesoftenementflatowners)

## Shared areas



● Shared areas highlighted in orange



## How to organise your maintenance plan

Regular inspections are fundamental to implementing a systematic and preventative maintenance programme for your building. The frequency of inspections should be tailored to suit the significance and vulnerability of the building elements, components and materials.

The initial checks and monitoring can be carried out by yourself but detailed condition surveys are best carried out by an independent professional with appropriate knowledge and experience in the maintenance and conservation of historic buildings.

### **Routine planned maintenance inspections**

These should take place at planned intervals – monthly, annually and every five years depending on the nature and condition of your building.

### **Reactive (occasional) maintenance inspections**

These should also be carried out following severe weather to check those parts of the building which are vulnerable to wind damage and severe water penetration e.g. chimney stacks, slates, gutters etc.

## Maintenance steps



# 1

## Familiarise yourself with your building, its condition and the shared parts for which you are responsible

Start with a preliminary inspection from ground level to familiarise yourself with your building, how it functions and its current condition. This can be done by walking around your property and inspecting from ground level. If your roof can be safely accessed you can inspect it more closely or if not you could ask a neighbour with a good high level vantage point so you can safely inspect the upper parts of the building from a safer vantage point.

Evidence of any problems should be systematically recorded and any items of concern listed. You can use a camera or binoculars to zoom in and help to reveal the condition of the high-level features in more detail. If possible you should take photographs to provide a record of the condition. This can prove very useful if you ever need to check when a defect developed and establish how quickly it is deteriorating.

### Stay safe

Ensure that you carry out any inspection or building maintenance safely. Ladders should be tied onto the building and there must be someone at the foot of the ladder. Watch where you tread, especially in roof spaces, and make sure you have enough light to see what you are doing. Safety equipment is needed for some jobs, including gloves for clearing drains or removing pigeon droppings from gutters. If in any doubt about safe access, particularly on roofs and in attics, use a reputable professional for the inspection or work.

Once you are ready some of the most important things to check will include:

### The rainwater disposal system

You should inspect this on a rainy day or immediately after rainfall as this is the best time to identify any leaks. Damp patches, staining and green algae or vegetation is also a sure sign that the wall is damp and that water is penetrating into the structure and internal fabric.

### Check

- Are the rhones blocked with leaves, vegetation or bird droppings?
- Are the rhones overflowing and water running down the walls?
- Are there any leaks at joints in the rhones and downpipes?
- Are any sections of the downpipes cracked or not securely fixed?
- Do they slope correctly towards the outlet?
- Is the paintwork in good condition?

*Any of these can cause serious problems very quickly. The rhones should be cleared regularly and the paintwork maintained in good condition.*



Leaking downpipe is causing damp and algae growth, which will erode the stonework



Plants growing around downpipes will cause leaks and erode surrounding stonework



Gutters filled with grass will overflow and cause dampness which will erode the stonework



Downpipe is in poor repair causing leaking, damp and algae growth

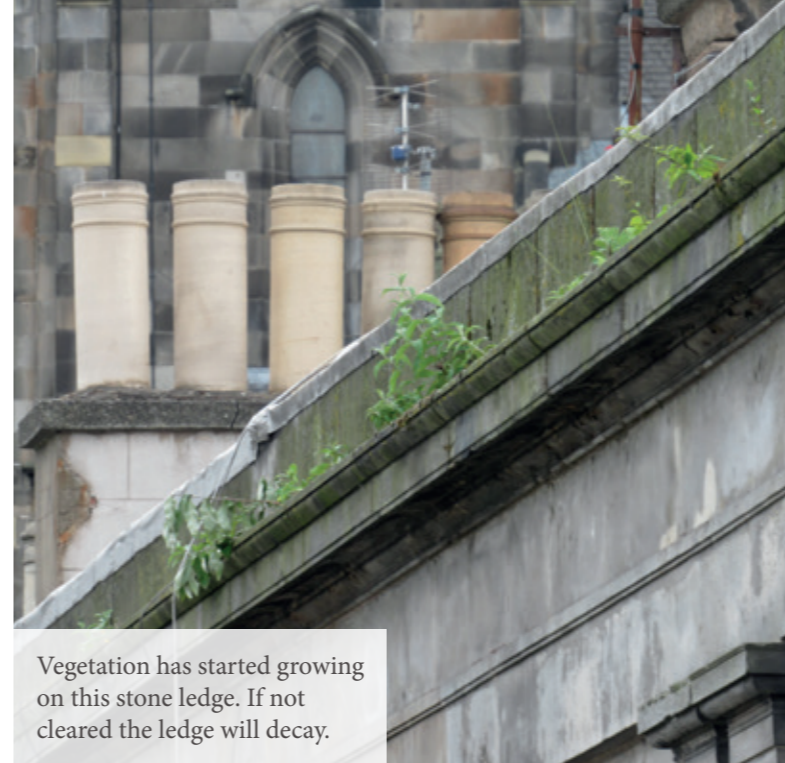
### Roof finishes, ridges, valleys and abutments

Slates are fixed with metal nails which will eventually start to corrode; when they fail the slate will slip and fall leaving the roof structure below exposed. Debris on the ground below or in the gutters will provide an indication of problems.

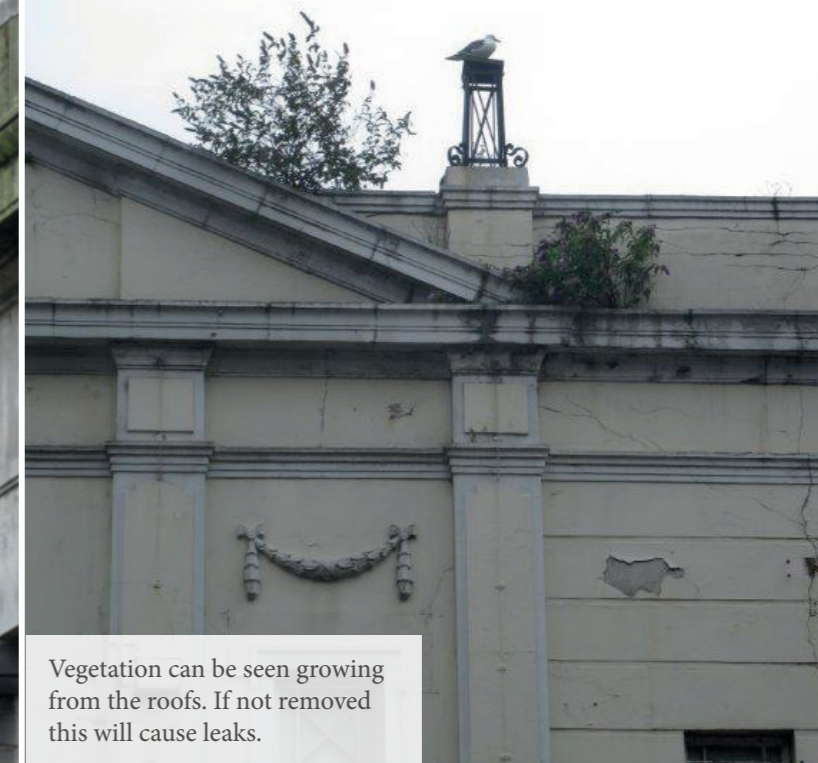
#### Check

- Are there any slipped or missing slates or tiles? Look out for slate debris and pieces in the rhones or at ground level – these can be a tell-tale sign of problem areas allowing rain to enter and cause rot very quickly and could damage internal finishes.
- Are all the ridge flashings along the ridge intact and securely fixed or are there gaps where they join each other?
- Are the mortar fillets loose or missing?
- Are the parapet gutters blocked with leaves and vegetation? Make sure they are sound and water can drain freely away.
- Are there any cracks, splits or holes in flat metal (lead) roof sheets?

*Water will quickly penetrate into the roof void and cause damage to structural roof timbers and internal finishes below. Slipped and missing slates must be replaced and any loose or missing flashings or ridge tiles replaced or refixed.*



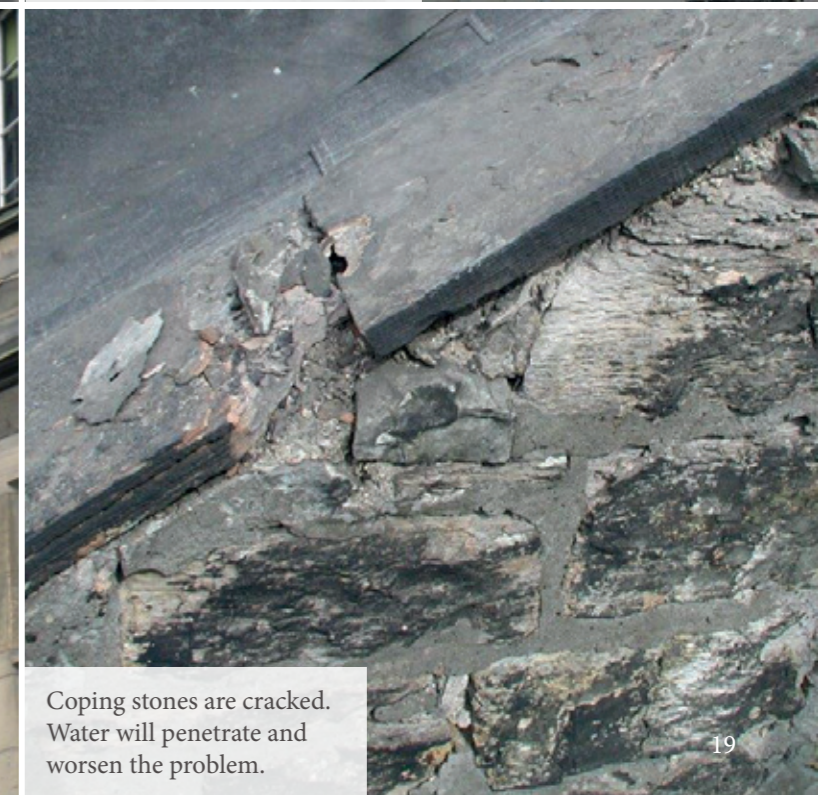
Vegetation has started growing on this stone ledge. If not cleared the ledge will decay.



Vegetation can be seen growing from the roofs. If not removed this will cause leaks.



Slipped slates may fall and pose a danger. Water ingress will follow if not replaced.



Coping stones are cracked. Water will penetrate and worsen the problem.

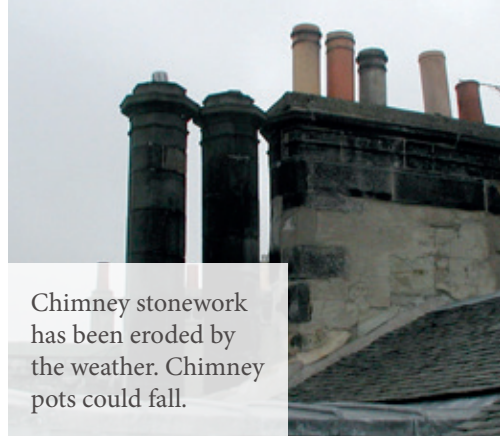
## Chimneys

The masonry of chimney stacks is very exposed and vulnerable to decay due to salts present in the flue gases and the exposure at high level.

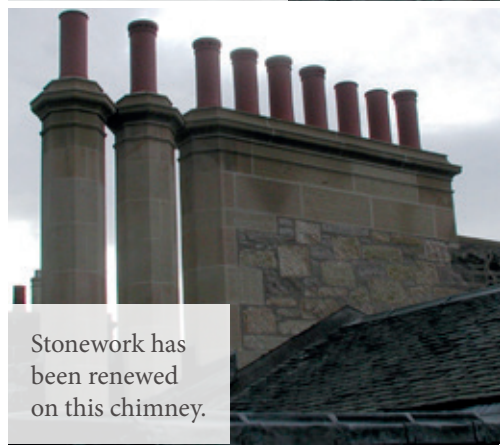
### Check

- Are all of the chimney cans vertical and appear to be securely set in mortar fillets?
- Is it leaning or are any of the stones out of alignment?
- Is there any vegetation growing from it?
- Can you see any cracks or staining in the stonework or open mortar joints?

*Any of these could indicate structural problems which could result in chimney cans and masonry falling during the next extreme storm. **Repairs must be carried out without delay.***



Chimney stonework has been eroded by the weather. Chimney pots could fall.



Stonework has been renewed on this chimney.

## Exterior walls

Look for any defects in the stonework, brickwork or rendering including damp staining, defective repair work and cracking.

### Check

- Are there any cracks in the stonework or deep erosion or missing mortar in the joints between the stones or bricks?
- Is there any vegetation growing from it?
- Are any ventilation grilles blocked?
- Is the ground level higher than 150mm below the ground floor level and dampness evident?

*Unblock ventilation grills as necessary as lack of ventilation will lead to decay of hidden fabric.*


## High-level joinery, timber windows and doors

The timber will need painting every three to five years especially if it faces south.

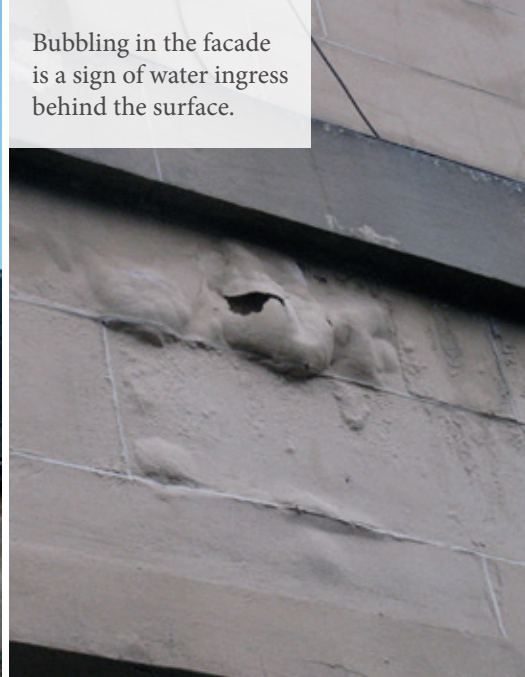
### Check

- Is the paintwork in good condition or is there any bare and decayed wood, especially on the cills and the lower parts of the opening sashes?

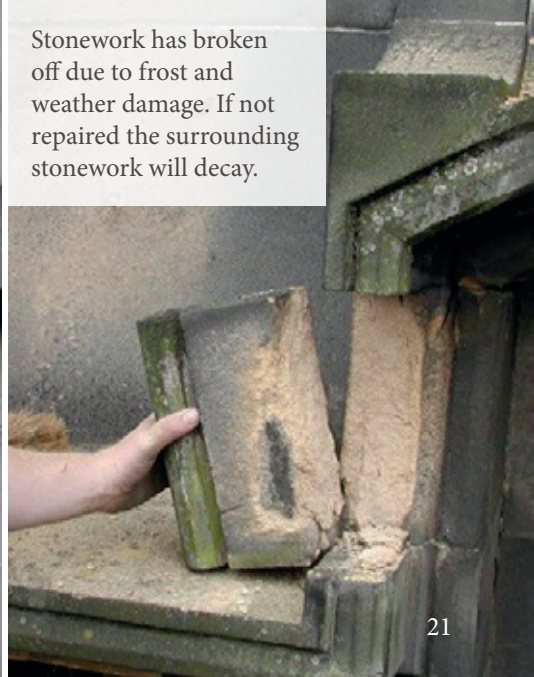
*Regular painting provides protection to the wood without which it will quickly rot. Well-made sash and case windows can last for 100 years + if they are regularly decorated and maintained.*



Woodwork to high level windows is in poor repair. If not stripped and repainted promptly they will need to be replaced.



Bubbling in the facade is a sign of water ingress behind the surface.



Stonework has broken off due to frost and weather damage. If not repaired the surrounding stonework will decay.

## Externally

Check all growth against the building especially trees, bushes and ivy.

### Check

- Are any pipes discharging water down the external walls?
- Is the paintwork to the metal railings in good condition or is there any rust?

*Swift action should be taken to rectify any leaking pipes.*

## Internal areas to check will include:

Internal roof spaces.

If your roof space has a safe means of access and has a boarded floor check whether there is any evidence of leaks or damage to the roof coverings.

### Check

- If insulation has been installed make sure that it isn't restricting ventilation at the eaves.
- Are all the water pipes and water tanks fully insulated?

## Interiors

You should also check the interior of your property for any signs of dampness, staining or cracking on/to the ceiling and wall finishes.

### Check

- If you identify any new stains or damp patches try and identify the cause.

## 2

## Obtain agreement from the other owners

Discuss and agree the findings of your initial inspection and the need to obtain a professional condition inspection and organise a planned maintenance programme with your co-proprietors.

### Agreement from all co-proprietors

Seek agreement from your co-proprietors to implement the planned programme of maintenance work required to keep your building in good condition and a safe and pleasant place to live or work. Begin the conversation with your co-proprietors about your shared maintenance costs and arranging a meeting. Don't be put off by any initial negative reactions – shared maintenance makes sense.

### Setting up a bank account

Once you and your fellow owners agree to carry out maintenance inspections and maintenance work, you should arrange for each owner who is liable for a share of the cost to deposit their share of the estimated cost into a maintenance account.

### Will I need statutory approval for maintenance work?

Simple maintenance work, which comprises routine regular tasks to keep your home in good order, should not need any form of consent. If you want to make repairs to your home, as opposed to carry out maintenance work, you may need permission and should seek advice, especially if your home is listed or in a conservation area (contact the City of Edinburgh Council). Unlike maintenance, repair involves specific work to remedy defects caused by decay, damage or use and this is likely to include changes to the original fabric of the building.

### 3

## Commission an independent professional inspection

Every tenement should be inspected every five years by an independent professional (normally a qualified architect or building surveyor).

You should employ a surveyor, architect or engineer but it is essential to check that this is one of their specialisms. If your building is in a Conservation Area or is a Listed Building, you should employ a conservation architect or conservation surveyor. There will be little difference in their fee but you will get someone who has better knowledge of your type of building and how to advise on planned maintenance work.

Ask the professional to report on the condition of the building and provide you with a maintenance plan, including any requirements for repairs so you can start making your financial plans.



### 4

## Find a maintenance contractor

There are significant benefits in having a “Retained Maintenance Contractor” – every owner or group of owners should maintain a relationship with a roofing and maintenance contractor on agreed terms.

Roofs should be checked at least once, possibly twice, a year in the Spring and Autumn. Gutters and rainwater outlets should be checked and cleared, cracked, slipped or missing slates replaced. The contractor should submit a brief report with each invoice and the appointment can be reviewed at the time of the quinquennial inspection.

There are significant benefits in continuity: just as a family doctor acquires knowledge and understanding of a patient over time, so both professionals and contractors gain understanding of buildings and their owners over time. Continuity generates trust and encourages personal relationship and responsibility.

Independently prepared specifications or inspections will enable tenders for repairs to be appropriate and cost effective. While competition at certain stages will be both necessary and appropriate, tendering can only be valid when true comparability can be guaranteed: this requires that specifications defining the quality and quantity of work and/or service are essential.

5

## Implement the agreed planned maintenance programme

Ensure that all of your co-proprietors agree to implement the planned programme of maintenance with related costs and then instruct your maintenance contractor to carry out the work, at least annually and including the recommendations from the inspection survey report.

6

## Continue the ongoing inspections, monitoring and maintenance

Make sure you continue to check the condition of your property on a regular basis to make sure that defects do not develop faster than anticipated.

### Keep a log book

You should create a log book for your home. Make a note of when you last did a maintenance check and what you found. You can record what repairs needed doing, when they were done, and who by, particularly if you had to use a professional.

You can also use it to record details of alterations you may have had done. All this information will be very useful not only to you, but also to any professionals who have to carry out work on your property, and to any future owners should you move on.

## Maintenance checklist and calendar

### Autumn and Spring:

- Inspect roofs
- Remove leaves and other debris
- Replace loose, slipped, cracked or missing slates
- Repair leaking gutters if necessary
- Check rainwater disposal and drains
- Inspect external walls for signs of damp, trace the cause and make good the defect
- Remove vegetation from the building
- Wipe gloss paintwork on woodwork with a mixture of water and white spirit in equal quantities with a squirt of liquid soap (not soaps containing acid; consult a conservator before cleaning valuable materials)
- Spring clean rooms in rotation

### Annual inspection:

- Inspect roofs (roofer)
- Sweep chimney if in regular use (chimney sweep)
- Inspect/rod drains (plumber)
- Check heating system, header tank and water circulation, inspect boiler, clean ducts and sweep flue if required (heating engineer)
- Inspect fire extinguishers (supplier)
- Repair and repaint south-facing woodwork if necessary (joiner and painter)

### Every five years:

- Clean out roof spaces
- Inspect and report on condition of building (building professional – see step 3)
- Prepare schedule of repairs in order of urgency for next five years (building professional)
- Inspect and test electrical installation (electrician)
- Repaint all external woodwork
- Inspect all external ironwork and repaint as necessary

### As required:

- Inspect roofs, gutters and rainwater pipes (after every storm)
- Eliminate vermin



## *Finding a professional and a builder*

To find the one that suits you best, approach two or three and ask:

- What experience they have of doing similar work?
- Who will manage the work?
- What is the cost and what does it include?
- When can they start?

Using an architect, surveyor or engineer as appropriate may cost more but can mean better quality and value for money in the long term. The following organisations can assist in finding a reputable person or company:

Royal Incorporation of Architects in Scotland (RIAS) [www.rias.org.uk](http://www.rias.org.uk)

Royal Institution of Chartered Surveyors (RICS) [www.rics.org/uk](http://www.rics.org/uk)

The Institute of Structural Engineers [www.istructe.org](http://www.istructe.org)

Federation of Master Builders [www.fmb.org.uk](http://www.fmb.org.uk)

Historic Environment Service Providers Recognition (HESPR) [www.ihbc.org.uk/hespr](http://www.ihbc.org.uk/hespr)

Trusted Traders [www.trustedtrader.scot](http://www.trustedtrader.scot)

The National Federation of Roofing Contractors [www.nfrc.co.uk](http://www.nfrc.co.uk)



## Further information

Further information and advice is available from the following sources:

### Common repair, common sense

A short guide to the management of tenements in Scotland

[www2.gov.scot/Resource/0041/00417200.pdf](http://www2.gov.scot/Resource/0041/00417200.pdf)

### Short Guide 9: Maintaining Your Home

### Short Guide 11: Climate Change Adaptation for Traditional Buildings

Visit [www.historicenvironment.scot/publications](http://www.historicenvironment.scot/publications) and filter for 'Short Guide' on the left.

### Tenement toolkit

Is a step by step guide to organising shared repairs to your property

[www.edinburgh.gov.uk/sharedrepairs](http://www.edinburgh.gov.uk/sharedrepairs)

### Under one roof

Is a website that provides technical information on repairs and is designed to help you spot problems with your building and then understand quotations from builders so you can get the best job carried out at the best price.

<http://www.underoneroof.scot>

### INFORM guides

Visit [www.historicenvironment.scot/publications](http://www.historicenvironment.scot/publications) and filter for 'INFORM Guide' on the left.

### Health and Safety Executive

[www.hse.gov.uk](http://www.hse.gov.uk)



## Advice

### Technical Research Team at Historic Environment Scotland

Contact the Technical Research Team at HES for more information on best practice in maintaining older buildings at [technicalresearch@hes.scot](mailto:technicalresearch@hes.scot)

### Grants Team at Historic Environment Scotland

Contact the Grants Team email [grants@hes.scot](mailto:grants@hes.scot) or telephone **0131 668 8801** at HES for more information on funding opportunities. Please note that HES do not provide any maintenance grants.

### Edinburgh World Heritage

Edinburgh World Heritage has repair grants available and can be contacted for information and advice at <https://ewh.org.uk/funding-advice/>

### City of Edinburgh Council

City of Edinburgh Council provide advice on shared repairs, responsibilities and appointing professionals and employing tradespeople at [www.edinburgh.gov.uk/info/20123/shared\\_repairs/798/shared\\_repairs\\_and\\_maintenance/5](http://www.edinburgh.gov.uk/info/20123/shared_repairs/798/shared_repairs_and_maintenance/5)

# Glossary

A list of handy words with their definitions that you might find useful when you are discussing maintenance of your building.

<b>Astragal:</b>	the bar separating panes of glass in a window.
<b>Bargeboard:</b>	the board fixed along the gable of a house to cover the roof timbers and prevent rain from driving in.
<b>Cement mortar:</b>	mortar introduced in mid-19th century in which the binding agent, hydraulic Portland cement, is mixed with fine aggregate.
<b>Cornice:</b>	flat-topped ledge with moulded underside projecting along the top of a building or feature.
<b>Crowstep:</b>	steps on a gable upstanding from the plane of the roof.
<b>Cupola:</b>	a small domed roof structure, often glazed.
<b>Downpipe:</b>	a pipe to carry rainwater from a roof to a drain or to ground level.
<b>Eaves:</b>	overhanging edge of a pitched roof.
<b>Flashing:</b>	usually lead, copper or zinc forming an upstand at a wall/roof junction to prevent water ingress.
<b>Gutter:</b>	a channel along the eaves of a roof for the removal of rainwater (see rhone).
<b>Gulley or gulley trap:</b>	an opening into which rain and waste water is collected before entering the drain.
<b>Harl:</b>	Scottish form of roughcast in which the mixture of the aggregate (small, even-sized pebbles) and binding material (traditionally sand and lime) is dashed on to a masonry wall. In traditional harl the aggregate is in the mix (wet dash), while in modern practice the aggregate is dashed separately (dry dash).
<b>Hip:</b>	the external angle formed by the sides of a roof when the ends slope backwards instead of terminating in a gable.
<b>Lime mortar:</b>	traditional mortar for buildings, a mixture of slaked lime and aggregate.

<b>Maintenance:</b>	routine work regularly necessary to keep the fabric of a place in good order ('...to stave off decay with daily care...' (Morris, 1877).
<b>Mullion:</b>	vertical member between window lights.
<b>Parapet:</b>	low wall or barrier at the edge of a balcony, bridge, roof, terrace or anywhere there is a drop. May be ornamented, pierced or plain.
<b>Pointing:</b>	the treatment of exposed mortar joints in masonry or brickwork.
<b>Proprietor:</b>	a person who owns a property or business.
<b>Repair:</b>	repair involving reconstruction – replacing decayed fabric with new fabric.
<b>Restoration:</b>	means returning a place to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material.
<b>Rhone:</b>	horizontal gutter for the collection and disposal of rainwater.
<b>Ridge:</b>	the highest part, or apex, of a roof where two slopes meet.
<b>Sarking:</b>	the rough boarding, nailed on top of rafters, onto which slates are nailed.
<b>Skew:</b>	sloping tabling, sometimes coped, finishing a gable which is upstanding from the plane of a roof.
<b>Sash and case:</b>	a form of window in which the glazing slides in two parallel frames within the case, the upper sliding outward of the lower.
<b>Sub-floor vent:</b>	small ventilator installed in external walls between a suspended timber ground floor and ground level to ventilate the space below the floor.
<b>Quinquennial:</b>	every five years.
<b>Valley:</b>	the internal intersection between two roof slopes.
<b>Verge:</b>	the projecting edge of the roof, overhanging the gable.

Edinburgh World Heritage

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