

Maintenance Booklet

Leabhran Obrach-Gleidhidh



Introduction

Ro-ràdh

The Highlands and Islands contain a rich and vibrant mix of settlements which incorporate historic buildings that add to its colourful and vibrant atmosphere. These buildings are built from high quality materials, but they need to be cared for in the right way. Problems often arise when they are not maintained or the wrong type of maintenance or repair is carried out.

The Highland Council and Inverness City Heritage Trust have prepared this guide to help property owners understand their traditional buildings and how regular inspection and maintenance can help you reduce your property costs and avoid expensive repairs.

It also provides useful information to help you spot potential issues early, and where to find help and advice when needed.

In the limited space available, this booklet offers an introduction to some key issues. It is not a substitute for a professional survey and report.

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Getting to Know Your Building

A' cur Eòlas air an Togalach Agad

All buildings require regular maintenance. Every day, they are subjected to the rain and wind that gradually wears down materials and opens up joints. These changes occur slowly and often go unnoticed. Leaks, falling masonry, damp, cracks, draughty and broken windows can all be caused by poor maintenance.

If you do notice a problem, it is important to approach the repairs in the right way.

Often the front of a building, which everyone can see, receives the greatest attention and the back, which is private and hidden from view, is overlooked. The weather does not differentiate and will attack every corner with equal intensity. When examining your property, it is important to be methodical, look at each element in turn, check every corner and make sure there are no forgotten areas.

Before we start, it is important to distinguish between maintenance work, repair work and renovations.

Maintenance means the regular upkeep of materials that are functioning correctly, or require only a simple replacement of worn items, like for like. Some maintenance tasks will be relatively straightforward and can be undertaken by any reasonable handyperson. Other maintenance tasks will require some expertise or involve difficult access and are better left to tradespeople skilled in traditional materials.



Regular maintenance will ensure that materials and components perform better and last longer, reducing the need for repairs.

Repair work is more disruptive than maintenance. It should be regarded as work necessary to resolve a problem, where materials have failed and are causing damage. Repairs will require more extensive opening up and investigation.

Before carrying out a repair, it is recommended that you speak to a conservation or building professional. It is often the case that the problem you are aware of is only a symptom of another more serious issue which may be located somewhere else. If you are not careful, you may spend a lot of money tackling the symptoms rather than the cause, only to find out later that the problem that you thought was fixed, has returned.

Renovation is even more invasive and is carried out with the intention of transforming a property. This is far beyond the scope of this guide.

When looking at traditional buildings, it is important to bear in mind that modern and traditional materials work in different ways.



Traditional buildings are built with solid stone walls and pitched roofs covered with natural slates. These buildings, constructed of natural materials that are flexible and breathable, respond to local climate and ground conditions. Modern construction tends to use complex, factory-produced materials and techniques that are not flexible and do not breathe. Modern and traditional materials work in different ways. If modern techniques and materials are used to repair a traditional building, a great deal of damage can be done which can be expensive to repair. For this reason, it is better to speak to tradespeople or professionals that are skilled and experienced in building conservation, when organising maintenance or repairs, rather than a regular builder.

Roof

Mullach

Water is the main cause of damage to the fabric of a building. In heavy rain, the volume of water running off the roof will be huge. Looking after your roof should therefore be a top priority. To inspect your roof, stand back from the building where you can get a good view of the slates and use a pair of binoculars to view each section of roof.

The slates may be durable but they are fixed to timber with iron nails and supported by stone structures, all of which are vulnerable to damp. Keep an eye out for missing slates. Are they isolated occurrences or is there an area of the roof where the missing or slipped slates are concentrated? This may indicate a problem elsewhere.

Look for straight and regular horizontal lines. The slates and ridge pieces should fit neatly. If there are undulations in the ridge, or line of slates, you should seek advice from a conservation professional. Gaps or raised sections between the ridge or slates will allow wind driven rain and snow to blow under the roof covering causing damage.

Any gaps, even the smallest, between ridges or slates may be used by bats to access the roof space. Bats are a protected and endangered species, and it is important that you do not disturb their roosts or access into and out of the building. If you are planning a significant repair or alteration, you may need to obtain a licence first. A conservation professional will be able to advise you.

Lead Flashings & Valleys

There are lots of corners and junctions around buildings that need to be covered over to keep the rain out. Lead is a soft, durable material that is ideal for working and folding into awkward corners for this purpose.





Over time, rainwater will wear away the lead and the wind can lift and tear edges, leaving holes that allow water into the building.

Lead should be dark grey in colour. Keep an eye out for lighter streaks as these may indicate areas of lead that has eroded and needs a closer inspection.

If the lead is very light in colour it may have been there a long time and may be approaching the end of its life.

Checklist

- Looking at each roof in turn.
Are there any slates missing or loose?
- Are the slates lying flat and fitting neatly – without any gaps?
- Looking at each length of flashing in turn, is the flashing lying tight to the surrounding finishes?
- Is the lead a uniform colour?

Chimneys

Similearan

Chimneys are tall structures exposed to the worst of the weather. It may look solid, but the chimney is a hollow structure with an outer skin of stone.

Located at the highest point on the building, any loose material that topples from the chimney is dangerous. Falling material will damage the structure below and can cause severe injury to people.

If possible, try to get sight of each face of the chimney as it is likely that one side will be more exposed to the weather than others.

It may not be possible to do a thorough inspection from the ground but you ought to be able to get an impression of the chimney's overall condition.

Repairs to a chimney must only be carried out by a skilled stonemason. Adjusting heavy stones and chimney pots on a potentially unstable structure, high up on a roof is extremely dangerous.

Skews

Skews are the lines of masonry that project above the roof slates at gables, or between properties, often rising from the eaves to a chimney stack.

Look at the joints between the individual stones that form the skew. If there are open joints or plant growth, a lot of water will be getting into the top of the stonework which will lead to much greater damage than an open joint on the face of the wall.

Look down the line of the skew where it meets the slates. There ought to be a smooth line of mortar that will prevent water running off the roof and into the wall. Due to its exposure, there may well be cracks or sections missing from this mortar.

Checklist

- Looking at each chimney in turn, is the chimney straight?
- Are some areas of stone worn more than others?
- Are there any open joints between stones?
- Can you see any cracks at the top of the chimney?
- Are any of the chimney pots missing, or leaning?
- Looking at each length of skew in turn, is the mortar fillet intact?
- Are there any open joints between coping stones?



Rainwater Goods

Bathar Uisce-adhair

Gutters and downpipes play an essential role in channelling the water away from the building quickly, protecting the structure and keeping it dry. When they become blocked or damaged, water will find its own way to the ground, often through the fabric of the building, causing a great deal of damage in the process.

Inspect your gutters every spring from the ground, using binoculars. Dormer windows can also provide a good position for viewing the gutters from above. Follow the line of each the gutters from its start to the downpipe.

Check that the line of the gutter is straight, with no dips, sags, or twists along its length. Gutters can be easily damaged by the weight of snow or ice sliding off the roof.

Check that there is no debris in the gutter. Gutters can become choked with moss or leaves washing off the roof. You might even find a dislodged slate that has slipped off.

Look for any dark patches or staining on walls immediately below the line of the gutter, or behind downpipes, as this may indicate a leaking joint.

At the rear of the property, there may have been alterations or extensions built on to the building. Drainage runs may have been altered which can result in complex layouts with numerous junctions and hoppers that can become blocked.



Spaghetti plumbing - changes over the years!



Choked gutter



Gully choked with leaves



Awkward drainage junctions

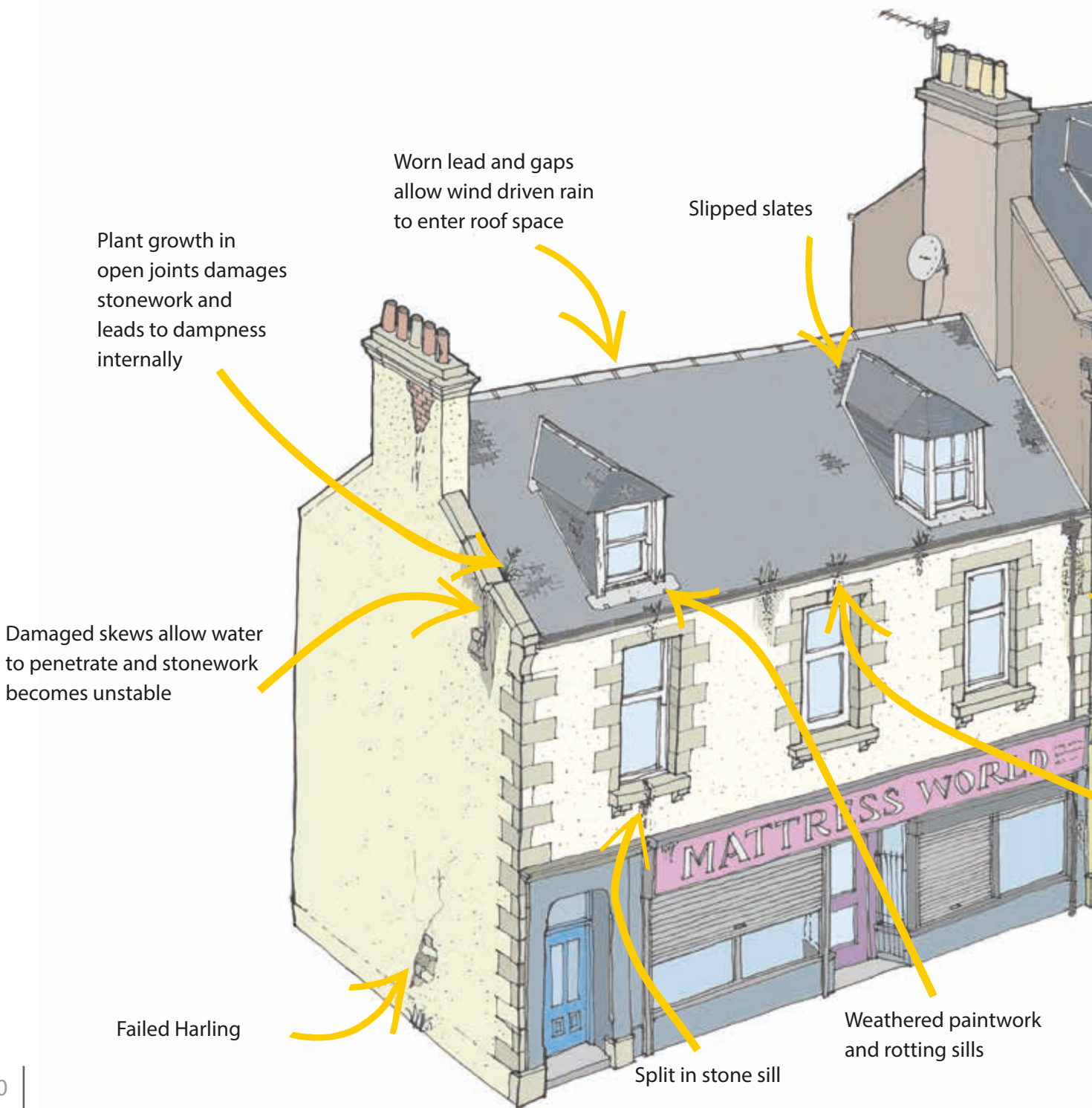
If your rainwater system is in good condition, it will require little more than a spring clean. Where you can reach the gutter easily from ground level, using a stepladder, use a trowel to clear out the debris along the length of the gutters.

Check the gullies at the base of the downpipes, making sure that these are not choked with leaves and debris. Where possible, remove the grate and, using a gloved hand, remove any debris from the pipe bend below ground.

When you are finished, use a hose to run some water in the gutters to check that it is flowing freely and emptying into the gullies and hoppers.

Checklist

- Looking at each length of gutter in turn are there areas of twisted, or misaligned gutter?
- Is there any staining to the wall below the gutter?
- Is there any vegetation growing in the gutter?
- Are the connections between gutters and downpipes intact?
- Are the gullies free from debris?



Plant growth in open joints damages stonework and leads to dampness internally

Worn lead and gaps allow wind driven rain to enter roof space

Slipped slates

Damaged skewers allow water to penetrate and stonework becomes unstable

Failed Harling

Weathered paintwork and rotting sills

Split in stone sill



Leaning chimney pots indicate damage at the top of the chimney

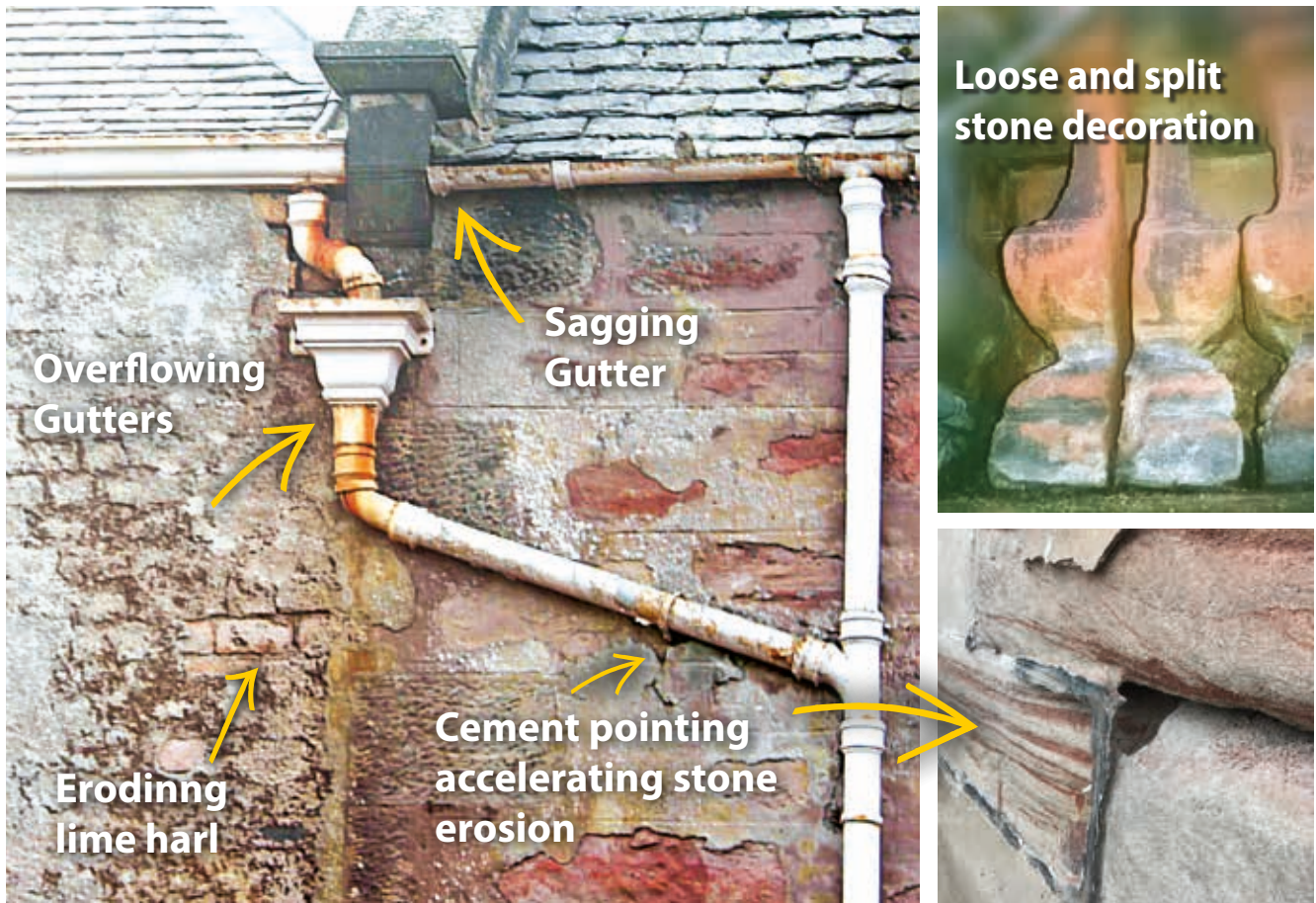
Installation of aerials and dishes can damage structure

Tall buildings create inspection and access challenges

Erosion to decorative stone features increase risk of falling masonry

Leaking joints in downpipes will damage stonework outside and cause dampness inside

Weeds growing in blocked gutters



Walls

Ballachan

Traditional walls are built using local stone and lime mortar. The materials are natural, durable, and breathable. If you look after your wall, it will stay dry, and you will enjoy a warm, comfortable, and healthy space inside. Damp walls are cold walls. Areas of staining and algae growth will be easy to spot but it is also helpful to inspect your walls shortly after a rain shower, before the wall is completely dry, and keep an eye out for areas that are taking longer to dry out than others.

Lime Mortar is softer than cement and will eventually be eroded by the weather and fall out. This is part of the normal life cycle of the material and should not cause alarm, it just means that it is time to rake it out the lime and repoint the wall.

Unfortunately, stonework is often repointed with cement. Cement traps moisture in the wall and prevents it from drying out properly giving rise to damp problems internally. Cement is also much harder than stone and can cause stone to erode and fail.

Replacing damaged stone requires specialist advice. Stones that look similar to the naked eye, can have very different microscopic structures, which means that they may not be compatible with one another, or the other stones in your wall.

Decorative stone features

Many Victorian buildings have decorative stone features that add to their beauty. Stone balustrades and projecting cornices with decorative brackets were often used high up to hide the roof. They are extremely dangerous if they fall.

Over time, these features can erode, the stones can split or become loose.

A regular visual check will help to identify any potential problems early.

Harling

Traditional lime harling works in harmony with the stone to create a waterproof and breathable finish. Cement harling is less flexible and when applied to stone, it often cracks, channelling water into the wall. Cement doesn't breathe so the water becomes trapped causing damp problems.

If your walls are harled, look for small, hairline cracks across its surface as these can be a pathway for water entering the wall fabric. Tap areas of the wall with the handle of a screwdriver. By listening to the sound, you will be able to identify any hollow sections where the harl has become detached from the wall. Hollow sections are weak and will eventually break off in sheets. It is better to deal with it before it gets to this stage.

Checklist

- Are there areas of staining or algae growth?
- Take each wall in turn and look carefully along the lines of the joints between the stones. Is the mortar coming loose or missing?
- Are there areas of staining or algae growth?
- Can you see any cracks in the harl?
- Can you identify hollow sections using a screwdriver?
- When repairing mortar joints or harl, always use lime and avoid cement. This is a specialist craft skill and it is easy to get it wrong. You should seek professional advice before carrying out this work.



Missing cladding panels



Cracked and peeling paint



Cracked and missing putty



Cracked and peeling paint

Windows / Joinery

Uinneagan / Saorsainneachd

Timber is used externally in traditional buildings for decoration and finishing around the edges of the roof. External woodwork is painted for protection. Timber will move as a result of seasonal changes in temperature and weather. This will cause the paint to split and allow water into the timber where it becomes trapped, causing rot. It should be inspected annually for damage and repainted every few years.

Grey or damp looking timber may not be rotten. Press the end of a screwdriver into the timber, if it is soft and spongy you should seek advice from a specialist. If it is hard, it is likely to be sound.

Traditional windows will also be made from timber. They are elegant and beautiful with slender components that maximise the amount of light that enters the building. Modern windows are made up of thicker sections that have a completely different character and can have a detrimental impact on your property.

Windows of traditional buildings are likely to comprise two panels or sashes that slide vertically past each other. Paint layers often build up over the years and can affect the operation of the windows and causing them to stick. Most sliding sashes are designed to be removable to allow proper maintenance to be carried out. This may include removable timber sections and hinges. Check them all and replace or repair as necessary.

The discovery of rot in a traditional window should not cause alarm. There are many treatments available for rot and, compared to modern windows, traditional window sashes are easy to repair. The sills will be most vulnerable, so have a close look in the corners around the bottom of the windows.

Glass may be held in place by timber beads or putty. Check around the edges of the glass to ensure that seals are intact. If there are gaps or cracks, arrange for these to be repaired.

Traditional windows are likely to be single glazed. There are many ways to improve the energy performance however you should only do this with the advice of a conservation professional. Alterations to traditional windows will require consent from the council if your building is listed or within a conservation area.

Checklist

- Looking at each timber in turn, can you spot any areas of split or peeling paintwork?
- Looking at each window in turn, do they open properly?
- Is the timber sill soft?
- Are the putty beads around each pane of glass in good condition?

Interiors

Taobh A-staigh

We like warmer buildings and lower fuel bills, but great care is required when upgrading a property to ensure that the insulation, ventilation, and heating systems are correct for traditional buildings.

Warmer rooms result in much higher levels of moisture in the air. This can migrate into the fabric of the building and cause damp, mould, or rot.

Dark spots around skirtings and ceilings may be a sign of mildew indicating a lack of ventilation.

When inspecting the interior, continue to work in a systematic manner. Start at the top and work your way down, room by room.

Attic

It is important that attic spaces are well ventilated. A lack of ventilation will cause a build-up of dampness, resulting in an outbreak of rot and attacks from insects such as woodworm. You should be able to feel a draught through the space, especially on a windy day. If there have been alterations or repairs in the past, ventilation paths might have been blocked.

Roofing felt may have been placed below slates, during previous repairs. This can prevent proper ventilation of the roof. You may be able to see this if you look closely through the small gaps between the timber boards (sarking) of the roof. This felt will block airflow through the roof and alternative means of ventilation needs to be provided.

Attic insulation that has been badly installed can have gaps in some areas or block ventilation paths in others. Try to keep a clear gap between the insulation and the sarking.

Cast your eye across the timbers, looking out for areas of staining or discolouration. Using a screwdriver, firmly prod areas of concern to see they are soft. This can often indicate if the timber is in poor condition. If you identify any areas of concern, speak to a specialist.

Small holes in old timber can be evidence of woodworm. This may be historic rather than active so get an independent professional to check first.

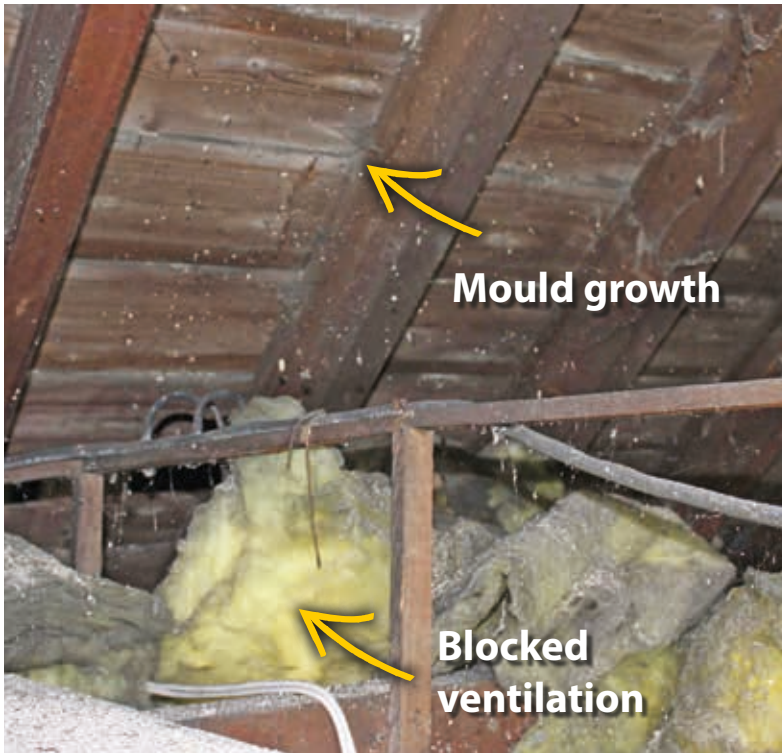
If entering the attic space, stay safe. Make sure you support your weight on solid timber joists only.

Kitchens & Bathrooms

If you haven't already done so, mechanical ventilation needs to be provided to bathrooms and kitchens as a priority.

If you have ventilation slots in your windows, open them and keep them open.

When redecorating, avoid materials that will not breathe, such as wet wall or vinyl paints. There are breathable alternatives available.



Insulation problems



Gaps between sarking boards allow ventilation

Checklist

- Have ventilation fans been installed in kitchens and bathrooms?
- Are there signs of mould spots on walls around windows or room corners?
- Can you feel a draught or identify ventilation in the attic space?
- Can you see roofing felt below slates?
- Has insulation been installed well?
- Is there a clear gap between the underside of the sarking and the insulation in the corners of the attic?
- Is there a damp stain or discolouration of timber in some areas in the attic?
- Are there holes in the roof timbers?

Services

More gadgets means more sockets.

Whenever plumbing or electrical works are done in a traditional property, care is required to avoid doing a great deal of damage.

Cutting into a wall, ceiling or floor, to run a pipe or fit a socket can impact on the structural strength, fire resistance and sound protection of the structure.

When fitting new pipes or wires plan the routes carefully to avoid damaging insulation or cutting timbers. Ensure that all insulation is replaced properly when the work is finished.

Pipework should be insulated. Regularly check around valves and joints for any evidence of moisture, this may be a leak or condensation. Either way, this moisture will drip and create a damp patch.



Notching reduces strength of timber



Removal of sound insulation to install services without compromising strength of floor

Landscaping & Gardens

Dealbhadh Tìre & Gàrraidhean

Gardens and paths change over time. This can result in ground levels rising higher.

Traditional buildings often have ventilation grilles at low level to keep the space below the floors dry. Make sure they aren't blocked and if necessary, reduce soil or paving levels around the base of the walls.

Trees are an important visual feature in towns, and many are protected which means that they cannot be cut down and removed without permission.

However, they can and do have an impact on buildings and services, so they need to be managed carefully.

- Roots and branches can extend a long way underground. They can make their way into drains and joints in walls, creating problems
- Shadows, cast by large trees can prevent walls from drying out after rain
- Long straggly limbs are in danger of breaking or splitting when blown about in winter storms which can damage your property
- Leaves will fill gutters.

If you have concerns, speak to a tree surgeon. They will be able to help manage tree growth and if necessary, removal.



High ground levels blocking ventilation



Large tree too close to house



Plant roots damaging stonework

Checklist

- Look at the base of each wall in turn, are ventilation grilles free from obstruction?
- Are there trees close to any of the walls?

Common Ownership

Sealbhadaireachd Cumanta

Buildings that are subdivided into a number of separate properties have particular challenges.

Legally, the responsibility for repair and maintenance is likely to be shared by all of the owners equally. There may be details written into your title deed that identifies these responsibilities.

In practice, how these activities are to be planned and organised or costs apportioned may not be clearly defined. With no mechanism for initiating repairs, problems might be ignored until major work is required or there is a danger to the public.

There are legal procedures available for compelling fellow property owners to participate in maintenance and repairs, however this is not an easy task. Don't be put off. There are professionals ready to help you at every stage to instigate the work and lead the process through to completion.

If you are approached by one of your neighbours, take the opportunity to engage in the process positively.

External Work

Common buildings tend to be taller and located in built up areas, creating difficult access to the building fabric and further deterring action.

It may be necessary to use specialist contractors with appropriate access equipment to carry out routine maintenance.

Internal Work

Even if you think you are only carrying out work on your own property, it may have an unintended impact on your neighbours if not carried out with care and an understanding of the traditional building fabric.

The installation of electrical sockets or plumbing can damage sound insulation. The result is that you can hear your neighbours' everyday activities and your neighbour can hear yours, causing a loss of privacy and comfort.

Removing carpets and exposing floorboards for aesthetics may look great but can lead to a great deal of noise being transmitted to properties below.



Common spaces can be difficult to inspect and create access challenges

Stay Safe

Fan Sàbhailte

Inspecting your property regularly will give you a better understanding of the changes that are taking place. You will be able to identify work that needs to be done early, before a problem arises, ensuring that costly repairs are avoided.

When carrying out inspections, it is important to stay safe. This booklet is intended to be used for occupied buildings in reasonably good condition.

- Do not enter properties that are disused or in a state of serious disrepair, leave these to a conservation or building professional
- Do not try to reach difficult areas where there is a risk of falling from a height
- Where possible try view the property from windows of neighbouring buildings or from ground level.

When inspecting attic or floor voids, spaces that are not part of the normal accommodation, be careful not to disturb insulation materials and use a mask as dust can be harmful.

Be aware of your surroundings. Look carefully at places where you place hands and feet to make sure that these points are stable and can support your weight.

Avoid touching pipes or wires.

Carry out the inspection with somebody else who can help. If this isn't possible, make sure that somebody knows where you are. Keep a mobile phone with you, in case you need to contact somebody for help.

If you are in any doubt, stop and return to a place of safety.

Equipment

For an initial inspection, you will require only a few items of equipment, that you probably have already;

- A stepladder
- A good pair of binoculars can be a great help for viewing roofs and chimneys
- A screwdriver is a useful tool for prodding timber or plaster to see if it is soft or crumbly
- A torch
- A notepad
- A camera for recording items.

This is often enough for you to make an initial assessment and decided whether or not it is necessary to arrange for specialists to carry out a more detailed investigation.



Sources of Help

Bunan Cuideachaidh

The following is a list of organisations that provide expert, independent advice and information relating to historic buildings.

The Highland Council

www.highland.gov.uk/info/161/planning_and_building_standards

The Highland Council planning department can provide guidance in relation to controls and restriction on development relating to listed building, traditional buildings and conservation areas.

Inverness City Heritage Trust

www.invernesscityheritagetrust.org

Inverness City Heritage Trust is an independent organisation that seeks to promote Inverness's historic built environment. A good starting point. Advice and grant assistance to property owners.

Historic Environmental Scotland

www.historicenvironment.scot

The lead public body who investigate, care for and promote Scotland's historic environment. A great on-line resource of practical advice for owners of traditional buildings.

The Engine Shed

www.engineshed.scot

The engine shed is based in Stirling and is operated by Historic Environment Scotland. It provides a wide range of education and training opportunities at every level, from novice to professional for all subjects related to traditional buildings.

The Society for the Protection of Ancient Buildings

www.spab.org.uk

A charitable company who provides training, advice, and events.

Royal Institute of Chartered Surveyors

www.rics.org

The professional organisation of Chartered Surveyors.

Institute of Historic Building Conservation

www.ihbc.org.uk

The professional body for building conservation practitioners and historic environment experts.

Under One Roof

www.underoneroof.scot

A great web resource with lots of practical information for owners of traditional buildings.

The Scottish Lime Centre

www.scotlime.org

The Scottish Lime Centre Trust promotes the knowledge and traditional skills required for the conservation, repair, and maintenance of the historic built environment. They run practical courses from their base in Fife.

The Pebble Trust

www.thepebbletrust.org

Highland-based charity who promote low carbon, sustainable projects, who have a great free sustainable renovation guide.

Scottish Civic Trust

www.scottishcivictrust.org.uk

A charitable trust whose mission is to celebrate Scotland's built environment, take action for its improvement and empower its communities.