

BUILDING ESSENTIALS

Helping you care for your valuable historic buildings and high streets.

SOUTH
NORWOOD
REGENERATION PROGRAMME

Love it or Lose it

Practical information to
maintain older buildings
with glossaries



Building Essentials is funded by Historic England's High Street Heritage Action Zone as part of the South Norwood Regeneration programme

Training and Guidance by:

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Introduction

Love it or Lose it is a document with practical information to maintain older properties of traditional solid wall construction. This document has been created to help property owners understand the importance of regular maintenance and what to look for when carrying out inspections. If you are a private tenant and you identify some of the issues present in this document please contact your landlord.

This document has been produced by the Society for the Protection of Ancient Buildings (SPAB) (<https://www.spab.org.uk>), and funded by Historic England's High Street Heritage Action Zone (HSHAZ) as part of the South Norwood Regeneration programme.

The information in this document has been tailored for the types of older properties generally found in and around South Norwood but can be relevant for property owners across the London Borough of Croydon. Other documents relevant to the topic are Conservation Area General Guidance (CAGG) and the South Norwood Conservation Area Appraisal and Management Plan (CAAMP) which can be found in the Council's website.

Terms that may be unfamiliar are highlighted in ***bold italics*** with an explanation outlined in a glossary of terms at the end of the document, along with a visual guide to common building features.

This document should be read in conjunction with the **Maintenance Calendar** which is a suggested plan of common tasks required for maintaining older properties of traditional solid wall construction.

Other document in the Building Essential series:

- ***Reusing Older Buildings: An Introduction***



Why is maintenance important?

Lack of maintenance is one of the key reasons why old buildings deteriorate. Carrying out routine maintenance tasks on a regular basis helps to protect the fabric of our historic buildings, preserves their value and assures their longer term survival for future generations to enjoy.

Maintenance is also the most practical and economic form of building protection. By carrying out basic maintenance, the expense of major repairs can often be avoided and at the least postponed.

Gutter Clear a not-for-profit organisation dedicated to encouraging good maintenance practices for Britain's historic buildings has identified that for every £1 saved by not carrying out preventative maintenance it could cost £20 in repairs within five years.



Decay caused
by lack of
maintenance.

What is maintenance?

Good maintenance is about spotting problems before they become too serious and taking early action to rectify them. Maintenance is most effective when it is carried out in a methodical manner:

- You should try to inspect the essential areas such as; **rainwater goods** and drains, the roof, mortar joints and render finishes and painted external **joinery** once a year.
- In addition, it is always worthwhile carrying out an inspection of vulnerable areas such as the rainwater goods and roof before the winter weather sets in.
- You can carry out practical tasks such as cleaning **gutters** and **gullies** to keep the building safe and dry.
- Remember to think about your own and others safety whilst you are working, such as when at heights or with equipment and materials.
- You should also make sure that you have the correct equipment, such a camera or binoculars for the inspections and protective goggles, gloves and masks.
- You may also need to apply for permission to carry out some work. Check with the council's planning department before you start:
 - www.croydon.gov.uk/planning-and-regeneration/planning/make-planning-application-homeowner/check-if-you-need-planning-permission
 - www.planningportal.co.uk/permission/common-projects
 - www.planningportal.co.uk/permission/what-to-do-next/lawful-development-certificate.



Blocked **parapet gutter** allowing damp to enter the building

Why do buildings decay?

The most common failures in building fabric can usually be traced back to one of three basic causes - poor construction, inappropriate repair or lack of maintenance.

Not all old buildings were soundly and robustly built. There can also be a considerable difference in the quality and durability of the materials themselves. Inappropriate repairs are frequently a problem with old buildings, in particular the use of modern cement mortars to **re-point** old walls. Whilst walls do need to be re-pointed from time to time to protect them from the weather, using a cement mortar can increase the rate of decay and cause a great deal of damage. Such work is usually carried out with the best of intentions but is harmful to the building fabric. It is therefore important to seek professional advice and/or appoint a contractor familiar with lime mortars. Other examples are the use of chemically injected damp proof courses, or proprietary water repellent solutions or modern emulsion paints on old walls. Such products will often prevent the proper evaporation of moisture from the wall and can exacerbate any problems of dampness (see 'walls and the breathing building').

However, in most cases neglect and lack of maintenance are the main cause of premature building decay. Simple to deal with issues such as blocked or broken rainwater goods, blocked parapet gutters, gullies and drains if left unattended will allow water to penetrate the fabric of the building.



Modern cement pointing to traditional brickwork causing erosion.

If the walls become excessively damp this might lead to blistering paint and plaster, increased rates of decay to soft masonry and the possibility of timber decay. Condensation in a poorly ventilated building can lead to mould growth, encourage decay in timberwork and lead to unhealthy living conditions.

The weather also plays an important role in the decay of structures. Driving rain can penetrate deep into solid walls where the pointing is missing or decayed. Storm damage and high winds may also play a part as they dislodge slates, tiles and leadwork.

The natural world can have a damaging effect on old buildings too. Tree roots can disrupt foundations and some climbing plants such as mature ivy can be strong enough to force rainwater goods away from the wall if allowed to grow behind them. Other plants established accidentally, such as buddleia, can also become a problem as their roots tend to break down mortar and may even force joints open, allowing water to penetrate the fabric.

Though protected by law, some animal species such as bats can have a negative impact. Birds can also cause problems when they choose your building as a nesting site with debris causing blocked rainwater goods.



(L) Trapped moisture leading to blistering of paint and erosion of the soft brickwork.

(R) Buddleia left to become established behind a shop front.

What to look for: Rainwater goods

Gutters, downpipes and hoppers

Designed to direct rainwater away from the building, the best time to inspect your rainwater goods is during or immediately after heavy rain, as this will let you identify any problem areas more easily. Use a pair of binoculars to help you see what is happening at gutter level and a hand mirror to look behind downpipes.

Cold weather can also damage rainwater goods, so it is worth checking for signs of damage during the winter. If gutters or downpipes are blocked, water can easily become trapped and will expand as it freezes and cause downpipes to crack or shatter.

As you walk around the building you may also notice signs of corrosion, often attributed to infrequent painting. As a rule of thumb, you should repaint cast iron rainwater goods at least every five years.



Location of blocked gutter evident after heavy rain.

Check that gutters slope towards the outlet and allow the water to run away freely without overflowing onto the wall surface. The fixings for downpipes and gutters should be checked as they can work loose. Staining or algae around joints are clues that the connection may be faulty.

Splashes on the ground at the base of the walls can be an indication that the water is not being caught by the gutter. Stains on brickwork or masonry that are visible when the weather is dry are also an indication that there might be a problem, as are areas of washed out mortar immediately below gutters.



(L) **Efflorescence** (white salts on the surface of the brickwork), evidence of a blocked downpipe.

(R) A blocked and rusting **hopper** and downpipe.

Gullies and drains

Faulty gullies and drains can result in water seeping into the foundations of your building. Find out where the water drains to. Does it discharge into a surface water drain or a combined foul and surface water drain? Ideally there should be a gulley underneath the bottom of the downpipe. If a drain is blocked, a backlog of water may appear at the gulley or the gulley may clear very slowly. If a blockage is suspected the drains should be rodded to ensure that they are working properly.

Sometimes the downpipe may just discharge directly onto the pavement. Check that the pavement falls away from the building so any water can drain into the road. Alternatively the downpipe may just disappear into the ground which can make identification and clearance of any blockages more difficult.

When cleaning gullies, be sure to wear heavy rubber gloves and take care, as it is not unusual to find hypodermic needles in such places. The local authority will remove any needle finds where the gulley is on the public highway. See the council's website for more information: <https://tinyurl.com/yd276zph>



(L) A blocked rainwater gulley not draining away.

(R) A downpipe without a gulley going straight into the ground.

Valleys and parapet gutters

Lead lined valleys and parapet gutters frequently become clogged with leaves and other debris, particularly when they are not visible from ground level. It is also not unusual for birds' nests to be the cause of a blockage.

Seeds blown by the wind can quickly establish themselves in small amounts of silt. Once established plant roots can cause extensive damage to masonry walls as well as blocking the flow of water away from the building. If they are not checked, the first sign of a problem can be damp staining or damage to the external face of the parapet or the tops of plants appearing above the top of the parapet. They therefore need to be checked and cleared on a regular basis.

Aim to clear all rainwater goods, valleys and parapet gutters twice a year, in spring and autumn. For valley and parapet gutters it is also worth considering introducing safe access out onto the roof from the roofspace to aid regular inspection and clearing.



(L) A parapet gutter blocked by nesting material.



(R) A tree sapling allowed to grow in a parapet gutter.

What to look for: Roofs

Neglect of a faulty roof will quickly lead to damage to other parts of the building. Damp patches to the underside of the roof or ceiling may suggest a problem, but they are not necessarily an indication of where the roof failure is located as water can travel a considerable distance from the entry point before it is seen.

Check roofs for frost and wind damage. Not all colour changes, minor cracks or delamination (flaking) mean that a roof is in poor repair, but debris on the ground from broken slates might indicate a problem.

Avoid bitumen coatings to face slates or tiles and spray-on foams to the underside of the roof. These are often promoted as either water proofing or sealing the your roof and improving its insulation. However they prevent the re-use of slates or tiles and can also trap moisture and reduce ventilation, increasing the risk of timber decay.

Ridge and hip tiles provide protection to the vulnerable areas where different roof slopes meet. They can be dislodged by high winds or stormy conditions so you should check for missing sections.



(L) Missing and slipped slates allowing rain to get in.

(R) Slipped tiles.

Arrange to have any dislodged or missing slates reinstated before damage occurs to roof timbers or ceilings internally. This is a straightforward task but will require a contractor who has the appropriate equipment to allow access to the roof slope.

A pattern of multiple slipped slates on a particular roof slope may be a clue that the fixings are starting to deteriorate. If this is the case, the slates or tiles may need to be stripped off and re-laid.

Ridge and hip tiles are often pointed with mortar to provide further weather protection. Look out for areas of missing pointing and seek guidance on their repair, as water will quickly penetrate any gaps.

You should also look out for large areas of moss, which can harbour damp and cause slates to deteriorate. If moss growth is a problem, it can be carefully removed by a knowledgeable contractor.



Excessive moss growth on roofs.

Abutments

The most vulnerable areas of the building fabric often occur where one part of the build meets another i.e., where a roof meets the wall. This is referred to as an **abutment**. These junctions will often have **lead flashings** to protect the joint from the weather. Inspect these flashings to check that they are in good condition, without holes or splits.

You should also make sure that they are securely fixed. Sometimes a **mortar fillet** is used to protect these junctions together with **lead soakers** underneath the slates or tiles. Check the mortar fillets for signs of decay. If they are loose or missing, they will need to be replaced ideally avoiding cement based mortars.

Roof spaces

If your roof space has a safe means of access then check whether there is evidence of leaks or damage to the roof during heavy rain. Where daylight can be seen from inside through gaps in the roof covering, moisture may also be able to enter.

Make sure that any roof insulation is not restricting ventilation at the **eaves** along the edges of the roof space. If there is an insufficient gap and there is a risk of condensation, this may lead to timber decay.



A stepped lead flashing at the abutment of a roof and wall.

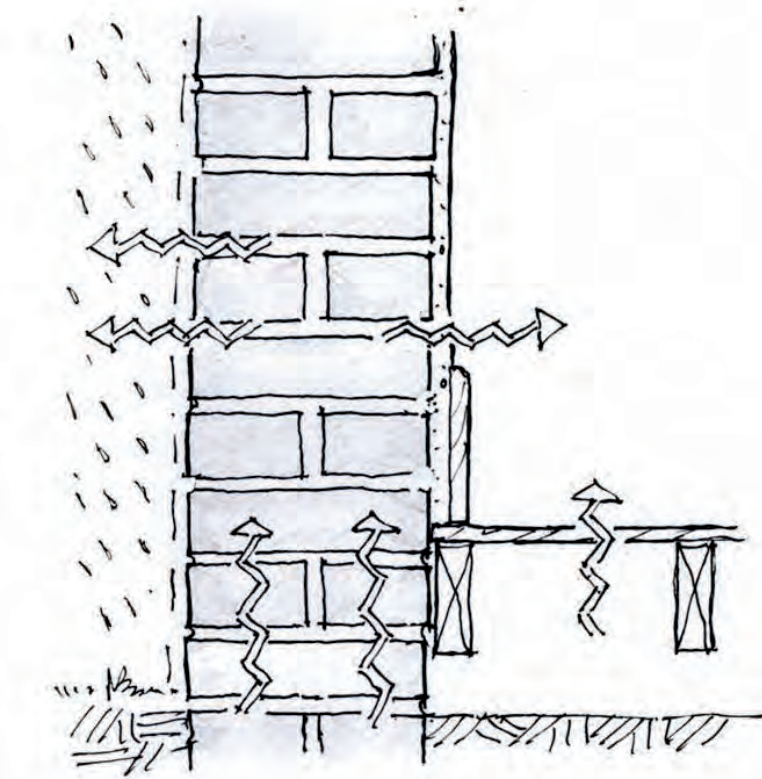
What to look for: Walls

The breathing building

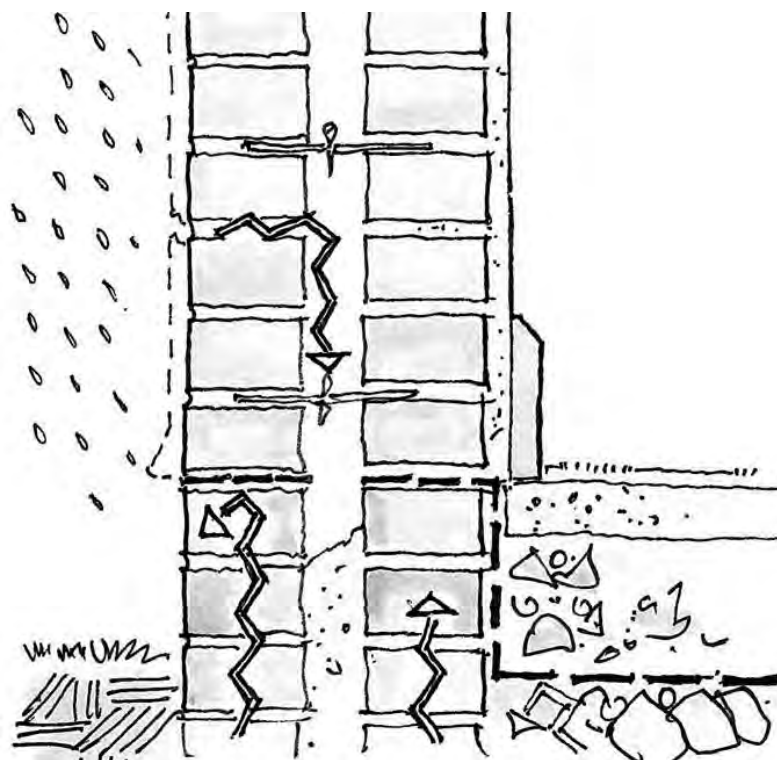
There are many differences between traditional solid wall buildings with their thick masonry walls and modern cavity wall buildings. Traditional buildings are usually built of brick or stones, held together with lime-based mortars. These materials are porous and allow moisture to penetrate the fabric and then evaporate away when conditions are favourable. For this reason, traditional buildings are said to ‘breathe’. In such buildings, dampness is controlled by the building’s ability to allow moisture to evaporate. The wind and sun aid the evaporation of water from the external surfaces whilst internal air movement helps moisture evaporate from internal surfaces. As long as the moisture can evaporate freely, the traditional performance of the structure will keep the walls of the building acceptably dry.

By contrast modern building materials, such as hard bricks, cement-based mortars and renders, modern masonry paints and external sealants are specifically designed to keep moisture out of the building by providing an impervious physical barrier. Cavity walls and cement renders protect the building from driving rain and damp-proof courses prevent moisture rising from the ground. Used correctly in new buildings, these methods are perfectly acceptable and will exclude the elements (if they are maintained).

Sections showing traditional solid brick wall and modern cavity wall construction



Traditional solid brick wall



Modern cavity wall construction

It is however very important to understand that they are rarely appropriate for older buildings. The use of impervious materials can risk changing the balance between water entering the fabric and water evaporating from it, resulting in it being trapped within the body of the wall, leading to problems with decay of the masonry and dampness inside the building. Damp walls will also lose heat more readily and are less thermally efficient.

Soft stones and bricks are particularly vulnerable to damage from re-pointing in impervious cement mortar rather than porous lime mortar. Moisture no longer evaporates through the joint which is now harder and porous than the masonry, instead it evaporates through the face of the brick or stone bringing with it salts that crystallise on the face leading to increased risk rates of decay.



Erosion to soft stonework caused by modern cement pointing

Renders

Render is usually a smooth finish, often lined out to imitate fine **ashlar** stonework, or by contrast a **roughcast** used in more exposed locations or where the masonry is of a poor quality. Traditional roughcast (otherwise known as ‘wetdash’ is not the same as the more modern ‘**pebbledash**’.

Renders serve both an aesthetic and functional purpose and should be retained and repaired if possible. Traditional renders are generally based on a mix of lime and sand. This makes them softer and more porous allowing the wall to ‘breathe’ rather than modern cement renders and pebbledash, which can be dense and impermeable trapping moisture behind and preventing the wall from drying out.



Modern pebbledash render alongside original brickwork.

What to look for: Doors and windows

The style of doors, windows and their surrounds can often provide clues about the age of a building. In all cases it is best to try to conserve and repair the existing door and window components rather than replace them. Most historic timber doors and windows can be repaired and upgraded and may outlive newer examples, as the quality of historic timber is often better than the materials now available.

Timber doors and window cills are more exposed to weather than any other element of joinery and deteriorate the quickest, even when made of hardwood. To prevent water getting in, joints need to be filled and if painted, you should also regularly check the condition of the paintwork.

Timber sliding **sash windows** and **casement windows** may 'stick' and be difficult to open. This is usually caused by a build up of paint layers over the years. The excess paint layers should be carefully sanded away and the whole window repainted. Damp weather will also cause timber windows to expand and the sash to stick. This can be remedied by waiting until the timber is thoroughly dry and then carefully sanding down the affected area before a re-paint. At the same time sash windows can be overhauled and seals and brushes added to improve both their thermal and acoustic performance.

Glass and ironmongery

Historic glass is very important and is increasingly rare. The imperfections in crown or cylinder glass can add greatly to the character of a building and may also be of a type that is no longer made. Hinges, sash pulls, latches, stays and locks are also important to the character of a window and should be repaired and retained if possible.

Paintwork

In the past builders and joiners would have used lead paint to protect window frames and other surfaces. Lead paint was popular until the 1960s, particularly on timber and metalwork. It is, however, toxic and its use is now restricted to use only on certain listed buildings.



Timber sash
window with
historic glass

You do need to be aware of the risks of sanding down or removal of lead paint during redecoration, as older painted surfaces may include many layers of lead paint. It may be safer to renew or overcoat lead paint than to attempt its removal. The presence of lead paint can be confirmed with a DIY test kit or by professional analysis.

Traditionally, external oak doors were left untreated. Though some people now favour regular treatment with linseed or tung oil, this is not always necessary. Softwoods used for doors and windows are generally less durable and need to be painted to protect them from decay.

Internal lime plasters and external lime renders were traditionally coated with a breathable limewash to ensure their longevity. Other compatible paint finishes such as silicate paints are also now available.

Where they have not been previously used, avoid proprietary emulsion paints internally and more critically masonry paints or water proofing substances externally. These impervious finishes will prevent evaporation, trapping any moisture within the walls, leading to blistering of the paint finish.



Blistering and failure of an impervious external paint finish.

What to look for: Rising damp, ventilation and condensation

Rising damp is the upward movement of ground moisture, shown by blistering and salt damage to the paint finish at low level. This can be caused by damaged or neglected drains, often in combination with high external ground levels. Both can be easy to deal with, with professional advice.

Constructional changes can also be a factor, such as the introduction of an impervious floor finish or slab, such as a concrete floor, pushing the ground moisture to the base of the outside walls.

Condensation is essentially the release of moisture that occurs when warm damp air is cooled to its '**dew point**' temperature. This can happen indoors, when warm damp air meets colder building components, such as windows, cold north walls or the underside of uninsulated roofs.



Rising damp to the base of the wall

Historically, ventilation helped the moisture vapour escape via openable windows, air grilles and loose-fitting doors. However, the balance can easily be upset leading to excess condensation and perhaps mould and timber decay.

This is often the result of additional moisture in the atmosphere from showers, drying laundry, cooking and kettles. Condensation can also arise when ventilation is reduced by over draught-proofing or the blocking of air bricks.

The best way to tackle condensation is to reduce the amount of water vapour being released into the atmosphere and to improve ventilation. You should ensure that ceiling and floor voids are kept clear and redundant chimneys are ventilated. If you're concerned about heat loss up the chimney, **chimney balloons** can help. Also think about opening the window for a period after showering to allow the room to ventilate.



Mould growth,
often an
indication of
condensation

What to look for: Timber decay and Beetle infestation

Timber rotting fungi and wood boring insects only cause significant damage where dampness exists. Dry rot is the most aggressive wood-destroying fungus and thrives in unventilated voids. It often has a musty smell and can develop into grey or white cotton wool-like sheets with tiny orange spots. Wet rot is a generic term that refers to decay occurring in very damp conditions. This fungus commonly causes exposed wood to soften and lose strength.

Where there is rot you may also find wood boring insects such as furniture beetle (woodworm) and occasionally deathwatch beetle, as they are attracted to warm, damp, unventilated conditions. Flight holes and bore dust are typical indicators of their presence, however the beetle larvae can live for several years in the timber and minor infestations do not necessarily present a problem, although monitoring is advisable.



Dry rot caused by lack of ventilation to the floor void

If rot or insects are present, this indicates an underlying problem with the build up of damp. In the first instance rather than using chemicals, successfully arresting decay involves eliminating moisture and promoting drying. If help is required, avoid using companies who are looking to sell you a chemical treatment. The SPAB technical advice line can advise on more suitable independent experts.



Beetle attack to
the outer
sapwood of a
beam

Need more help?

Further information, help and advice on all the areas covered is available through the Society for the Protection of Ancient Buildings (SPAB) at www.spab.org.uk.

Alternatively you can phone their technical advice line on 020 7456 0916, 9.30am-12.30pm Monday to Friday.

About the SPAB

The Society for the Protection of Ancient Buildings believes old buildings have a future. From cottages to castles and from churches to cathedrals we are here to help buildings and the people who care for them. Through our unique training schemes, courses, advice and research we help people put our expertise into practice.

Founded by William Morris in 1877, the SPAB was established in response to the work of Victorian architects whose enthusiasm for harmful restoration caused irreparable damage. Today the SPAB encourages excellence in new design to enrich and complement the built historic environment. We train new generations of architectural professionals and building craftspeople to shape this landscape with sensitivity and skill, and we play a statutory role as adviser to local planning authorities. In our casework we campaign actively to protect old buildings at risk.



Image credits: All images are the property of SPAB and James Innerdale.

Glossary of key maintenance terms

Abutment

The point at which a roof meets a vertical wall

Ashlar

Finely dressed stone, either an individual stone that has been worked until squared up, or a structure built from such stones.

Bitumen coating

A water proof protective coat applied to poor quality slate roofs, sometimes called 'Turnerising'. Removal of the bitumen is not a viable option. The whole roof will normally need to be stripped and renewed.

Casement window

A window that is attached to its frame by one or more hinges at the side and open to the outside. They are used singly or in pairs within an outer frame.

Chimney balloons

A chimney draught excluder designed to reduce the amount of heat lost up through a redundant or under used chimney, whilst retaining some ventilation to the flue.

De-lamination

Material failure where it fractures into layers. Can be caused by a number of factors depending on the material.

Dew point

The atmospheric temperature (varying according to pressure and humidity) below which water vapour condenses to form water droplets.

Downpipe

A vertical pipe usually connected to a gutter, designed to carry rainwater from a roof to a drain or to ground level.

Eaves

The bottom of a sloping roof where it overhangs the wall below.

Efflorescence

A white powdery deposit on the surface of stone, brick or plaster. It occurs when excessive moisture causes soluble salts present in masonry to dissolve. They are then drawn to the surface of the wall where they re-crystallise.

Fabric (Building Fabric)

The parts of the building enclosing the interior of a building, separating the internal from the external, such as walls, roofs, internal surfaces, floors, stairs and doors and windows.

Gullies (Gulley)

A fitting at ground level with a chamber which is designed to collect rainwater and groundwater and direct it into a below ground drain.

Gutter

Metal or plastic channel at the base of the roof where it overhangs the wall (eaves) designed to collect rainwater run off from the roof as part of the rain water discharge system for a building

Hopper

A chamber at the head of a downpipe connecting the roof gutter and downpipe.

Joinery

The wooden components of a building such as doors, windows, the roof and floor structure and stairs.

Lead lined valley

A valley formed where two roof slopes meet, which is lined with lead. Water collects in the valley and is directed off the roof.

Lead soaker and flashing

At an abutment of a roof and masonry used to prevent water from entering a roof space. Soakers are fitted underneath a tile or slate and turned up against the masonry. Flashings are cut into the masonry and are turned down to lap over the soaker.

Mortar fillet

A triangular strip of mortar which provides a weathertight seal in a corner between roofing slates or tiles and a wall; used in place of a flashing.

Outlet (Gutter outlet)

Point where the water in a gutter is directed into a downpipe or hopper.

Parapet gutter

A parapet is a short extension of the wall head past the roofline. Parapets will have a gutter behind them. These gutters are long and will normally have steps formed in the lead to ensure the rain flows down to the outlet.

Rainwater goods

An all-encompassing term for fixtures and fittings on the exterior of a building designed to direct rainwater away from the building

Render

A coat of plaster applied to the external face of a brick or stone surface.

Re-point

To repair the joints of brickwork or stonework with mortar (In older buildings this would be a lime mortar)

Roughcast (or 'wetdash') and Pebbledash

A render coat containing gravel in mortar that is thrown in a premixed state onto a wall. It is distinct from pebble dash (or 'dry dash') in which the aggregate is applied separately onto wet plaster.

Sash window

A window containing a moveable upper and lower section within an outer frame, which can be opened either by sliding the bottom half up or by sliding the top half down.

Spray-on foam

A chemical product that expands after it is sprayed in place.

Visual glossary of key building features

