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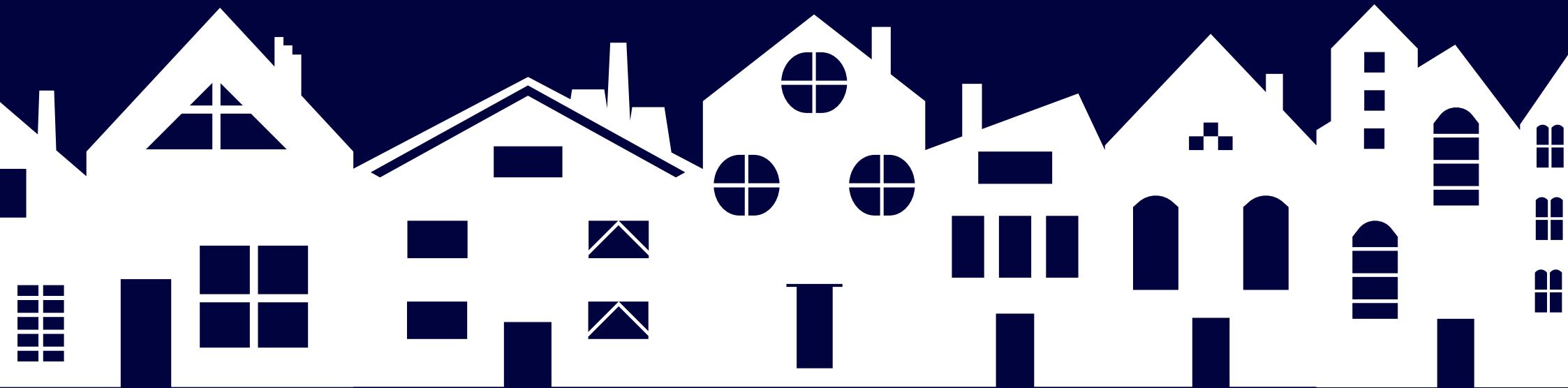
Basic Terminology and Deficiencies: an Introduction

(Housing and Health Series - Booklet II)

Jill Stewart and Paul Oatt



Basic Terminology and Deficiencies: An Introduction

Housing and Health Series, Booklet 2

Authors biographical details

Jill Stewart has worked in housing for over 30 years, as practitioner then academic and has published and presented widely. She has co-created and led courses in private sector housing regulation to help develop the environmental health and housing workforce. She is Associate Professor in Public Health at the University of Greenwich and is currently involved in a range of teaching and research projects around housing and health. She is co-Chair of the London Public Health Housing Network and she is a Chartered Environmental Health Practitioner, Fellow of the Chartered Institute of Environmental Health and Member of the Chartered Institute of Housing.

Paul Oatt is a Chartered Environmental Health Practitioner, Fellow of the Chartered Institute of Environmental Health with over 20 years' experience in local authority regulation to management level. He has an MSc in Public Health from the London School of Hygiene and Tropical Medicine (LSHTM). Paul has taught at Cardiff Metropolitan University and Middlesex University and authored Selective Licensing: The basis for a collaborative approach to addressing health inequalities (2020).

This booklet was sponsored by JMW Solicitors.

Introduction

This booklet provides an introduction to terminology and deficiencies and should be read in conjunction with wider literature available around these subjects. It is intended to help plug a gap in resources available for those new to this area, or those who wish to refresh their knowledge and understanding.

The competencies and skills to carry out a full inspection, identify deficiencies and specify remedies are fundamental requirements for those working as front-line practitioners in housing, health and safety.

Practitioners need an ability to be knowledgeable about construction methods, apply correct building terminology and to understand the nature and extent of deficiencies, whether as integral to the original construction or as having resulted from a lack of maintenance or repair, or indeed as a poor adaptation to a property.

Remember that what you do is important in the evidence trail to inform decision making. Your survey must therefore be accurate, thorough and detailed.

It if first necessary to describe the property. Is it of typical architectural style representative of the local area? Are you able to estimate its age? Is it similar to other properties in the vicinity? Is it a house or a flat, or a converted property, and if so, what? How many storeys are there? What is the nature of the construction? Are there any particular features to note, for example is it in original condition or has it had works carried out? What is its overall quality and is it better or worse than neighbouring properties? Is there anything else to note?

The process of inspection (survey) needs to be systematic and capture details. Most inspections start with an external overview, generally starting with the front elevation, before moving to the rear. Include details of the curtilage, front and rear gardens or other shared/communal spaces, any significant outbuildings, paths, and access points and rights of way if applicable.

It is worth making a note of weather conditions on the date of the visit(s) and what the local environment is like.

Record what you see. Take photographs on an organisation issued camera, phone or iPad. Make a note of where and what these photographs are of. Draw a floor plan of each level. Annotate this accordingly, tying up any internal and external deficiencies of note, such as penetrating damp for example. You may be able to record this all electronically or you may have a proforma inspection sheet.

You also need to record details of those with an interest in the property, the landlord, agent, owner and who lives there. Obtain as much information as you can and which rooms as used, and by whom at the time of your visit. Record details you see inside to help you with this, such as numbers or names on doors, or in any shared spaces such as kitchens and bathrooms. Check how the property appears to be being used, whether as a single family, or multiple occupants and make a note of your reasons for this as appropriate.

From outside the property, record the general condition of the property in relation to what you would normally expect. Is it better or worse? Why?

What deficiencies do you see externally? Do you need equipment to help you; a zoom lens or binoculars, or a ladder (paying due attention to health and safety). Are the deficiencies related to the original construction, or a result of lack of repair or maintenance? What might be required to remedy this? How do you know?

Once inside the property, be systematic in your approach to how you inspect. Always for example start at the ground floor front and name each room from that and again be systematic about the left and the right. Make a note of the number of storeys, back additions, basements and loft rooms. Once you have fully completed the ground floor, move up to the first floor and so on.

You may wish to label rooms in the manner indicated below, or you may use an alternate format. Whatever you do, be consistent both on plans and any schedules/specifications of work you generate.

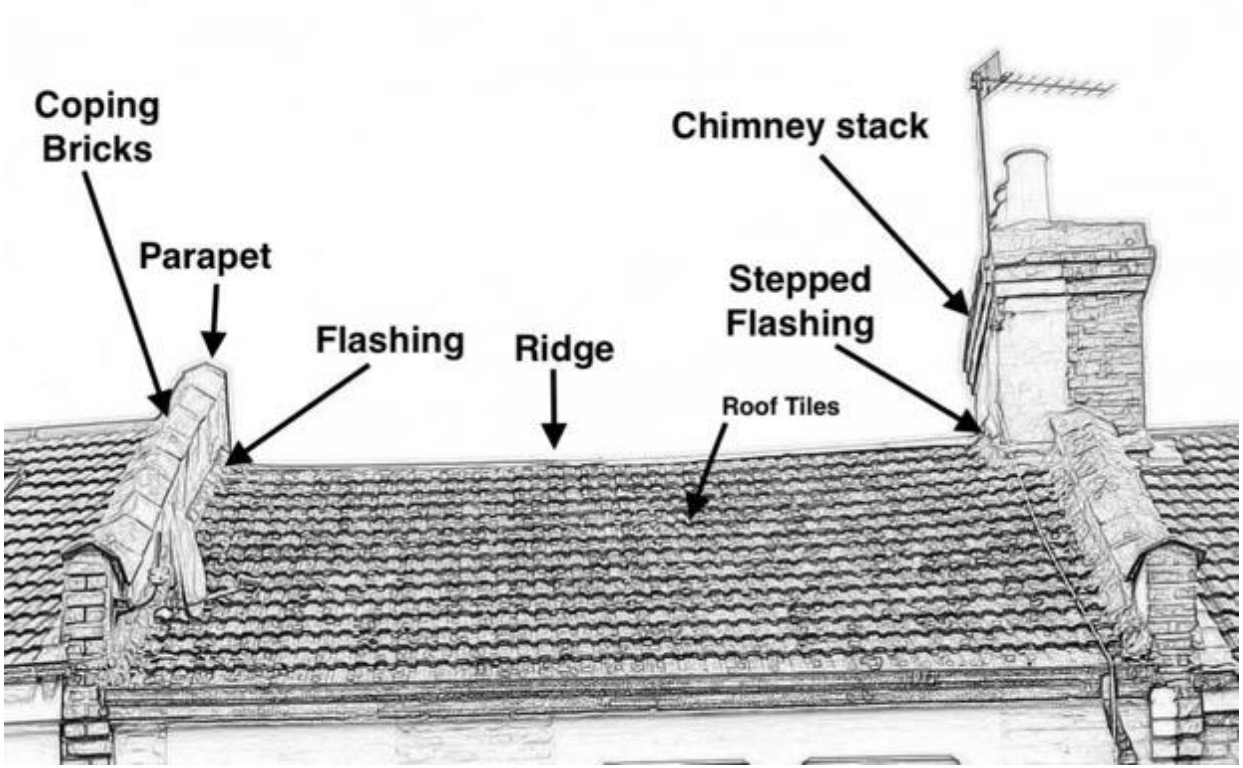
Be practical in your inspection but ask permission first. Is there heating and if so, does it work and is it suitable for purpose? Do all the amenities work, for example do taps work and provide hot and cold water? Does the WC flush as designed? Do the windows and doors open and close as designed? Have all gas appliances been serviced within the last 12 months? What about the electrical installation?

If you see damp (and mould), what type of damp is it? How do you know? Are you able – with permission – to mark the property to show its extent, in case it changes on a subsequent visit. Make a note of the approximate coverage of damp and where it is, and – if appropriate – if it results from an external deficiency such as a missing roof tile or leaking downpipe. Can you use a damp meter and record readings?

What do you learn from the residents there? Are they happy with things or do they face particular challenges arising from their living conditions?

Is there anything else you need to record when you visit about what you see, or what you are told?

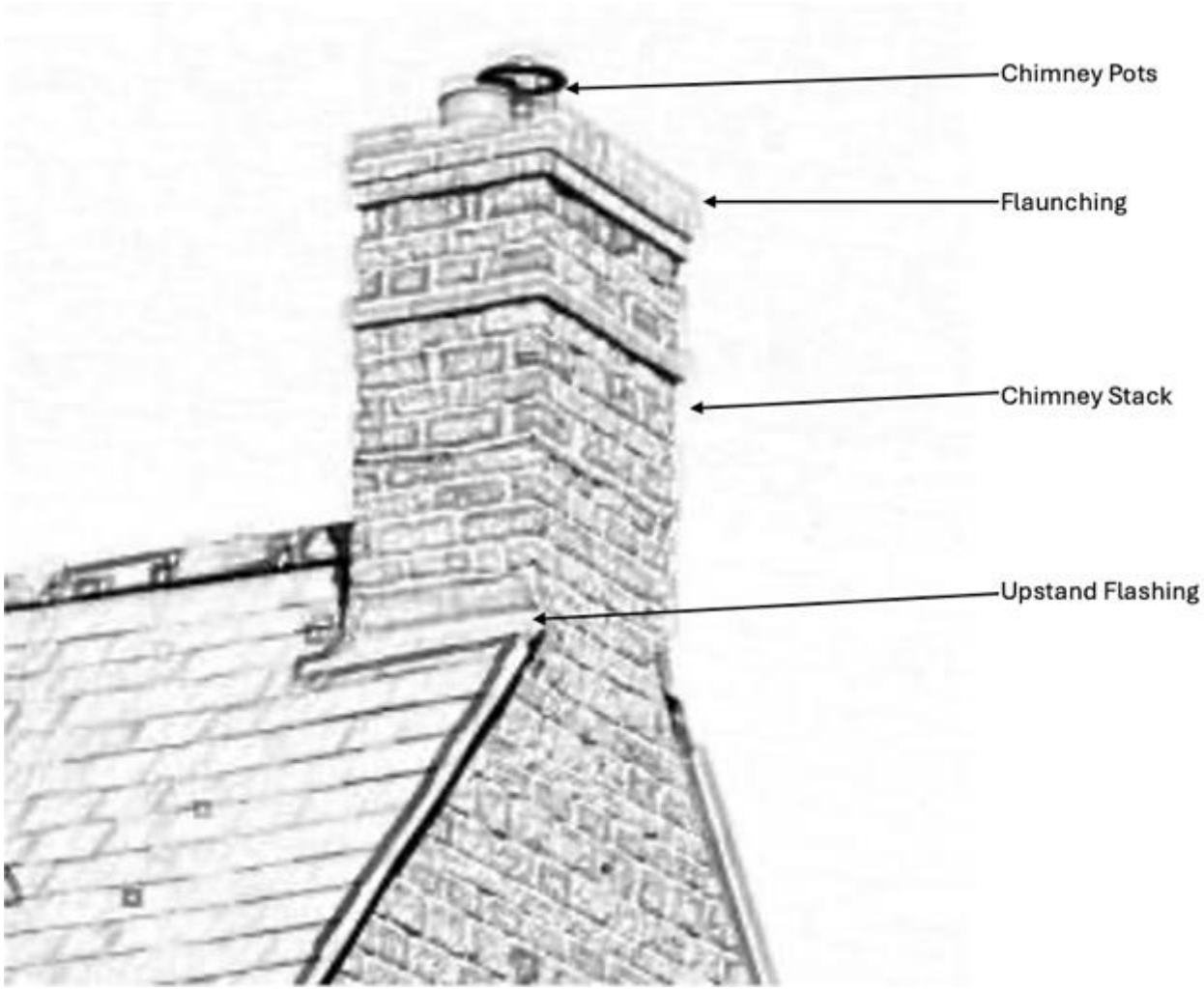
This booklet will now introduce and detail some terminology and deficiencies. We hope that you find it helpful.

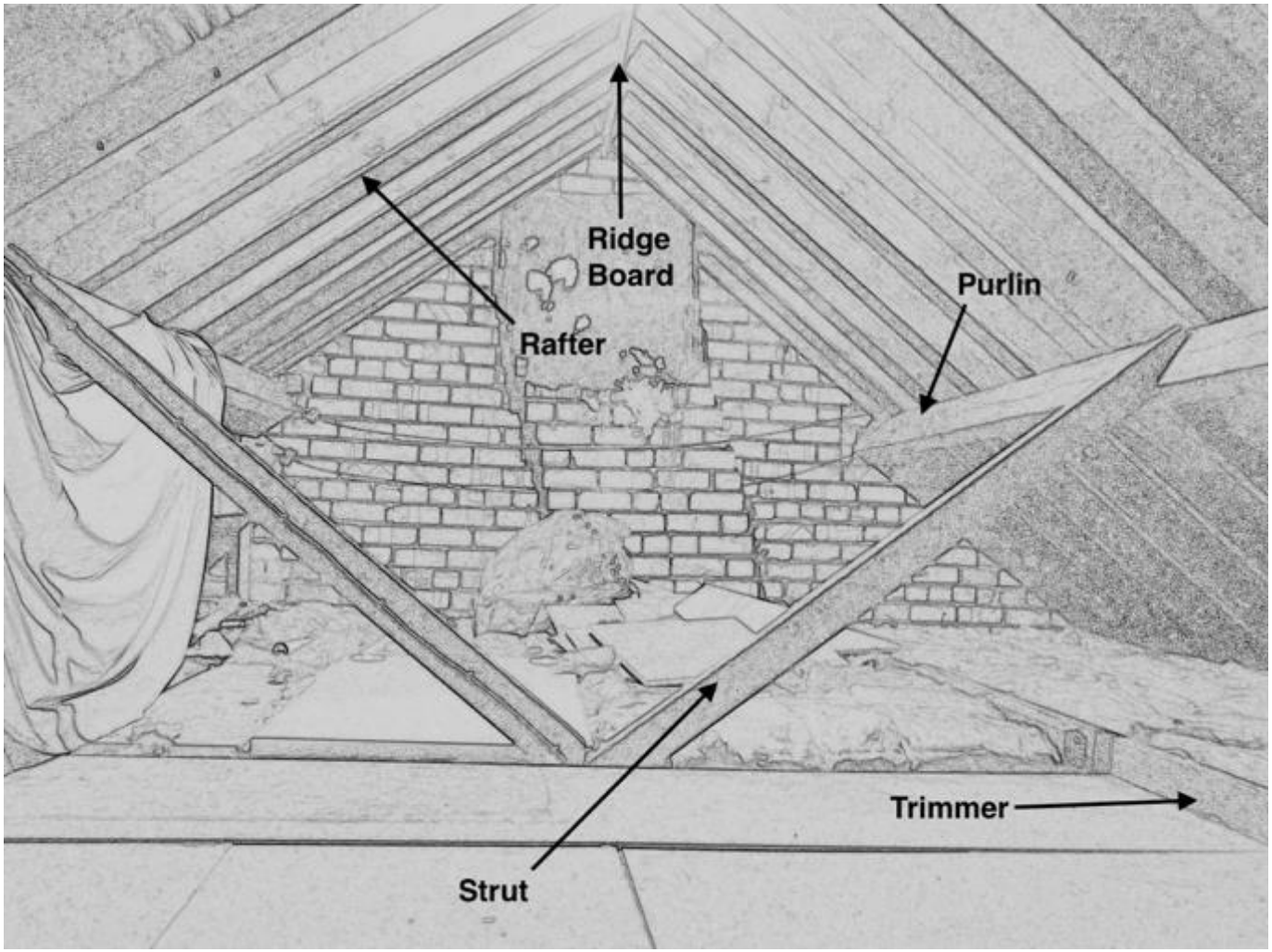


Absence of features or loose elements on roof areas all provide potential routes for damp ingress.

Examine flashings are they continuous? Is there any break? Or is it missing completely? Look for loose roof tiles or loose coping bricks or damage to mortar on parapet brickwork.

If the room below shows evidence of a leak on the ceiling, try to see if any defects noted externally on the roof correspond to the same area.


Chimney Pots
Flaunching
Chimney Stack
Upstand Flashing

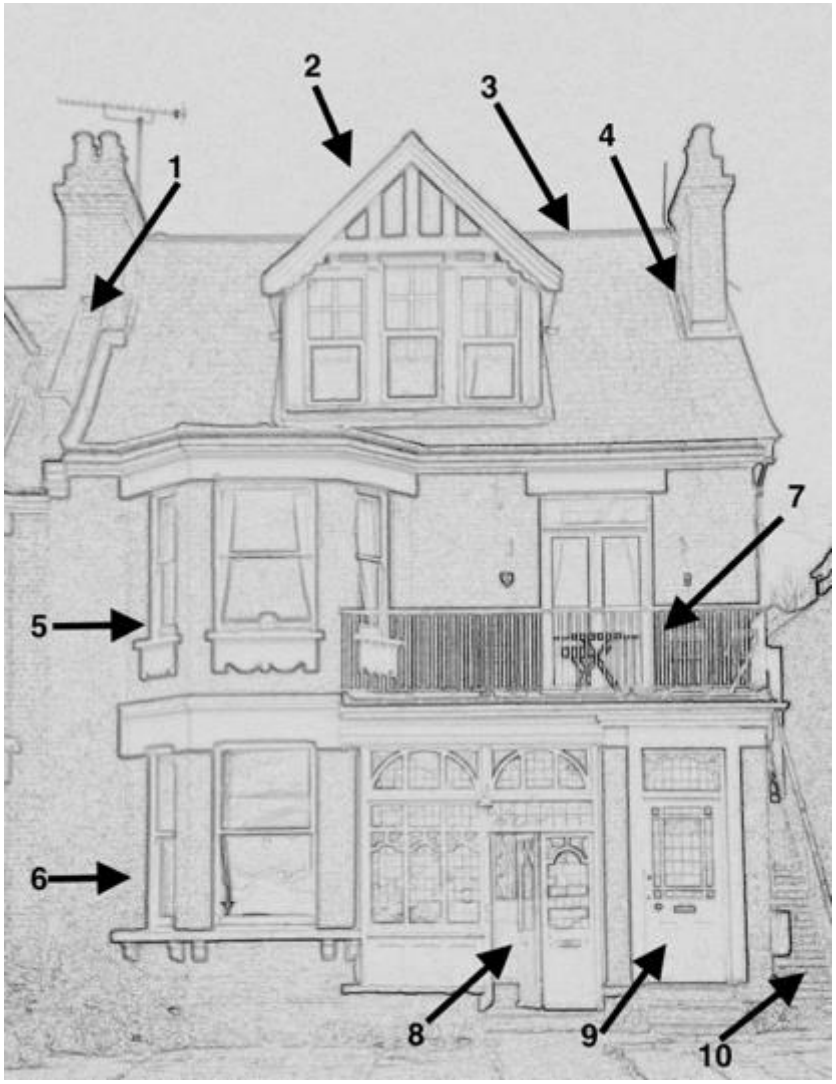


The roof is meant to provide protection to the rest of the building from the weather.
It must be capable of supporting its own weight and any loads that can be imposed upon it like snow, water tanks in the loft and all the junk we want to store.

The roof should be stable and not subject to excessive movement or be the cause of instability to other parts of the structure.

The struts are supporting the roof pushing upwards and are connected to the purlins which support the rafters. The rafters all connect to the ridge board along the top of the roof. Extra support at floor level is provided by the trimmers.

If an old roof has had its slate tiles replaced with concrete tiles more struts are needed to support the extra weight. Often set at intervals with three rafters between them. If a roof is sagging, check to see if it has been re-roofed (look at other roofs in the street), and check the loft to see if extra struts were put in.

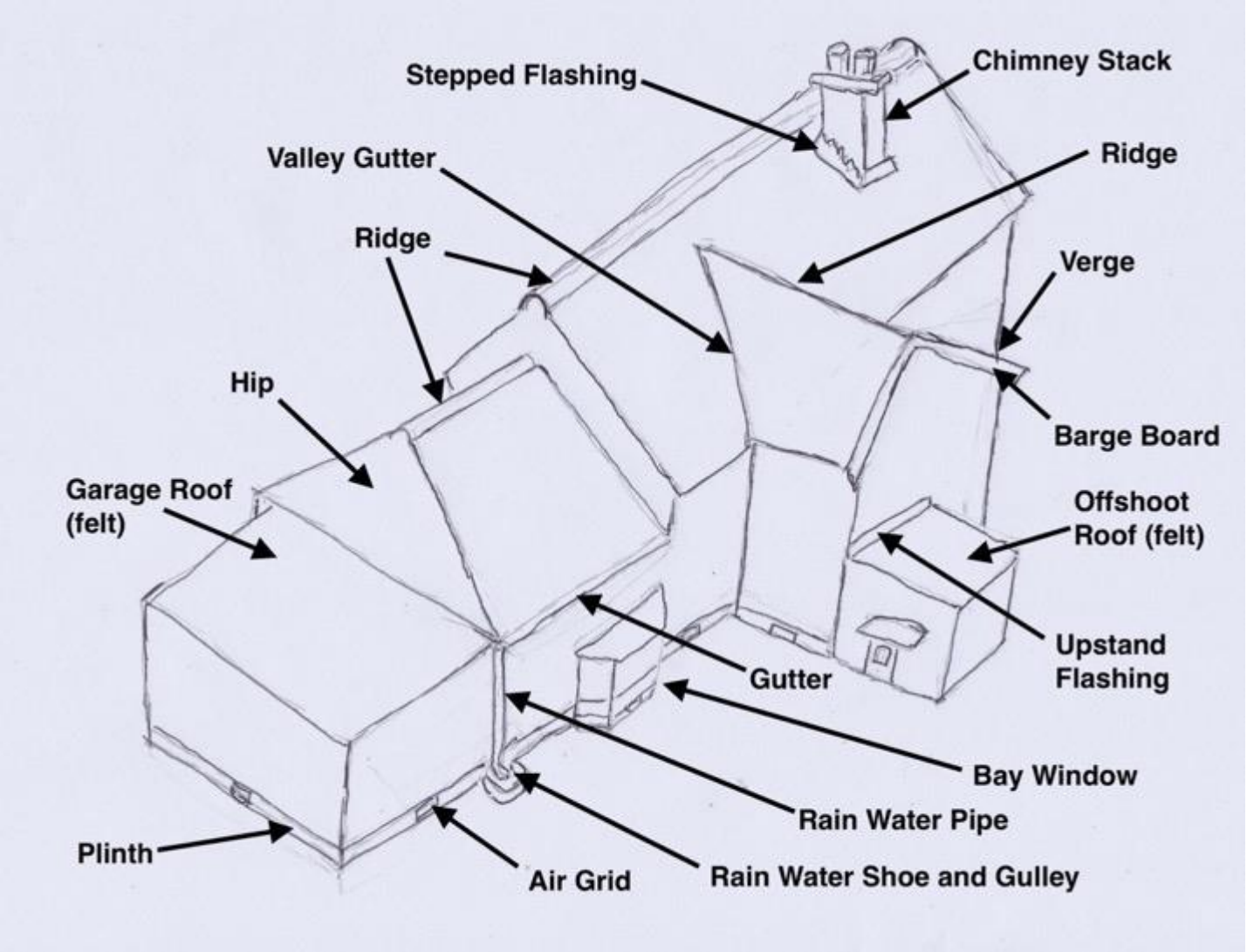


1. **Parapet**
2. **Dormer Window**
3. **Ridge**
4. **Chimney Flashing**
5. **First floor front left hand bay window**
6. **Ground floor front left hand bay window**
7. **First floor front right-hand balcony**
8. **Ground floor front porch**
9. **Ground floor right hand front door**
10. **External staircase leading to first floor entrance**

This is a 1930's semi-detached property that has been converted into three flats. The ground floor flat is accessed through the ground floor porch entrance.

The first-floor flat is accessed by the door to the far right. The final flat is accessible via the external staircase which takes you to a side door at first floor level. This leads into a small hallway and a staircase to the second floor. This flat is referred to as the First and second floor flat.

Looking at the terminology used how would you describe the middle window on the first-floor bay?

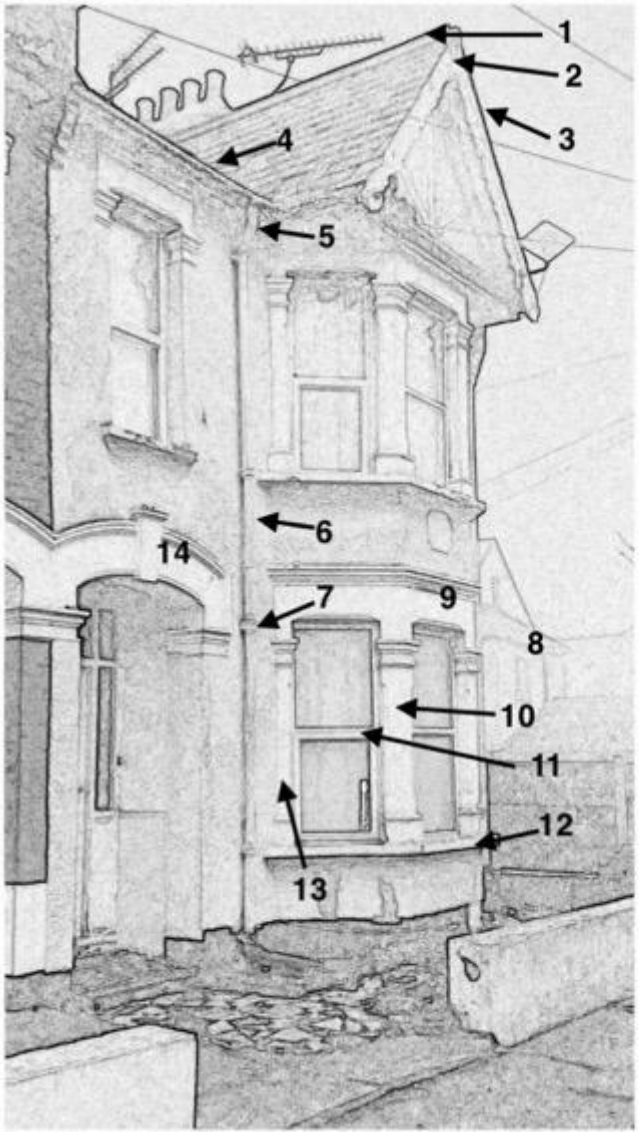


If a property has a plinth and air grids it is because it has a suspended timber floor inside. Along the plinth will be a damp proof course 150mm above ground level.

Look to see if the ground level has been raised and obscures or partly covers the air grids.

Look at the plinth detail behind the rainwater pipe and shoe. Does the pipe discharge close or below the level of the gulley?

Examine the plinth behind the gulley has it been damaged by water? If yes look at the wall inside.



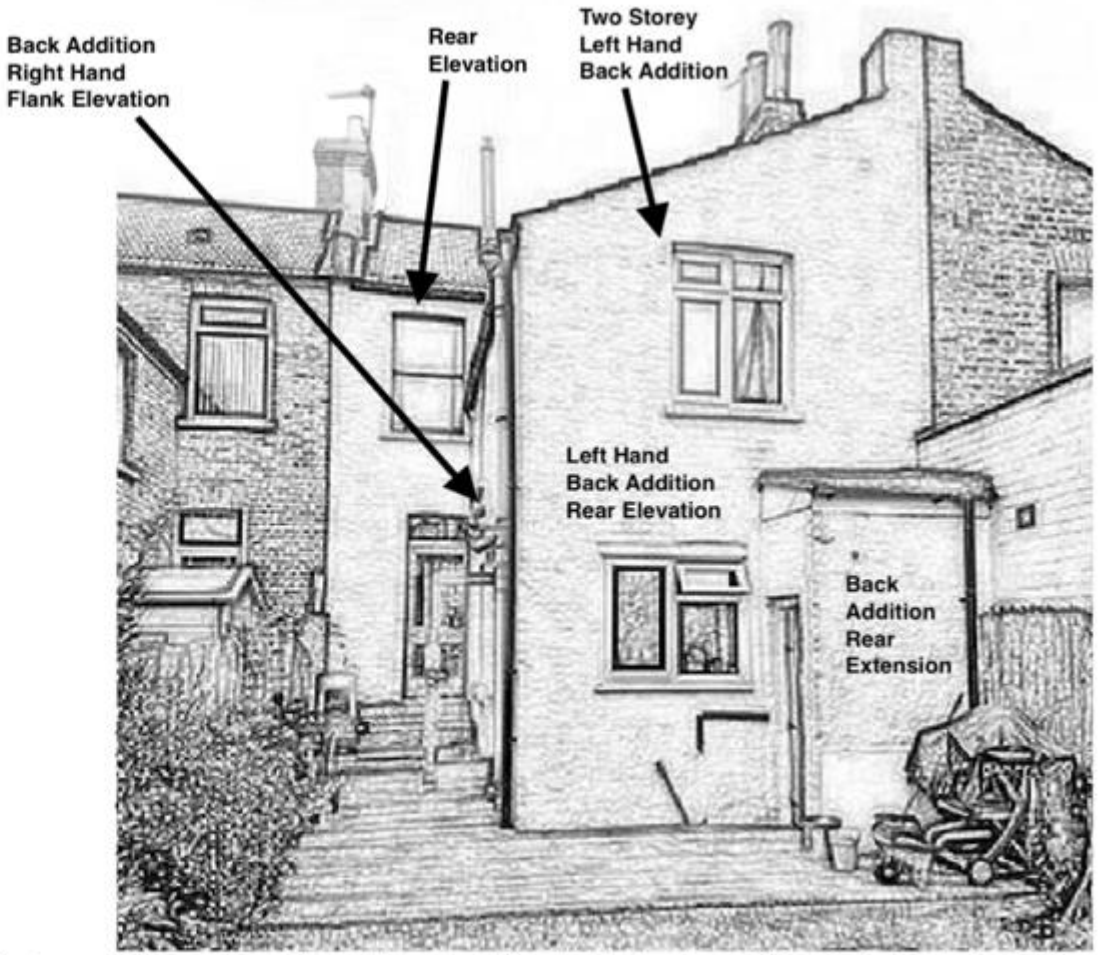
1. Ridge
2. Barge board
3. Verge
4. Gutter
5. Offset bend
6. Rainwater Pipe
7. Clip
8. Bay Window
9. Head
10. Mullion
11. Transom
12. Cill
13. Jamb
14. Keystone

As well as the general condition of the roof look at the condition of features such as wooden barge boards.

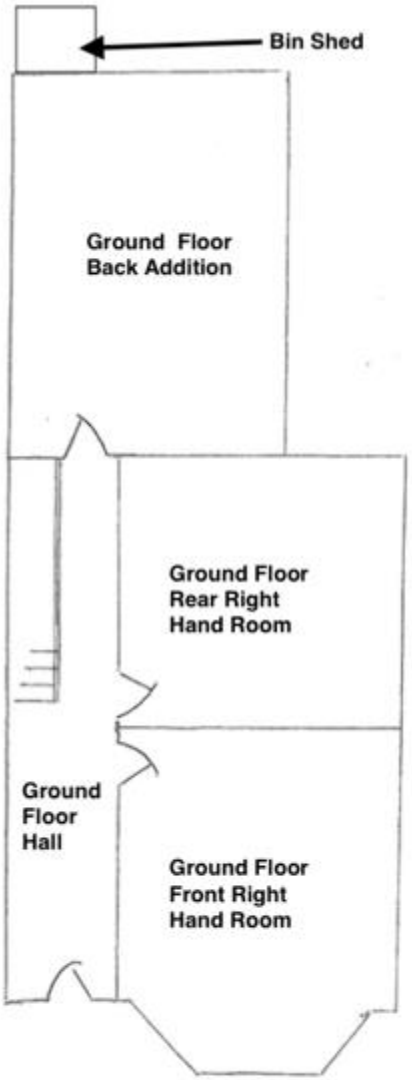
Always check the gutters for overgrowth or loose sections. Is the downpipe corroded or loose? Can you see any areas of damp staining surrounding either areas below the gutter or around the down pipe?

Check the condition of stonework surrounding windows and their subcills.

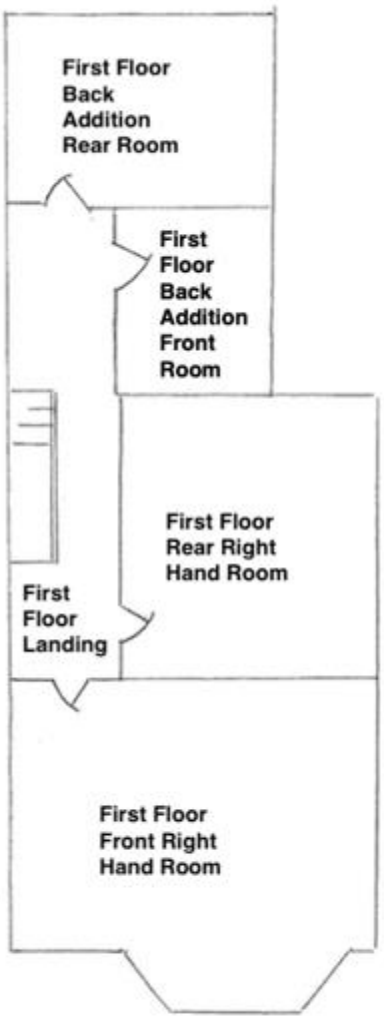
When writing reports left and right is stated as if viewing the property from the street. At the front of the property.



When viewed from the street front, the back addition is to the left of this property. An alternative name for the Back Addition Rear Extension could be the Bin Shed!



Ground Floor



First Floor

When describing rooms always keep it consistent.

Looking at the previous picture of our front and rear elevations and the two-storey left hand back addition, the floor layout on the left names the rooms at ground and first floor level. Right and left is given as if being viewed from the street at the front of the property.

Always try and keep it as simple as possible. For the rear extension on the back addition, just call it the bin shed if that's what it is.

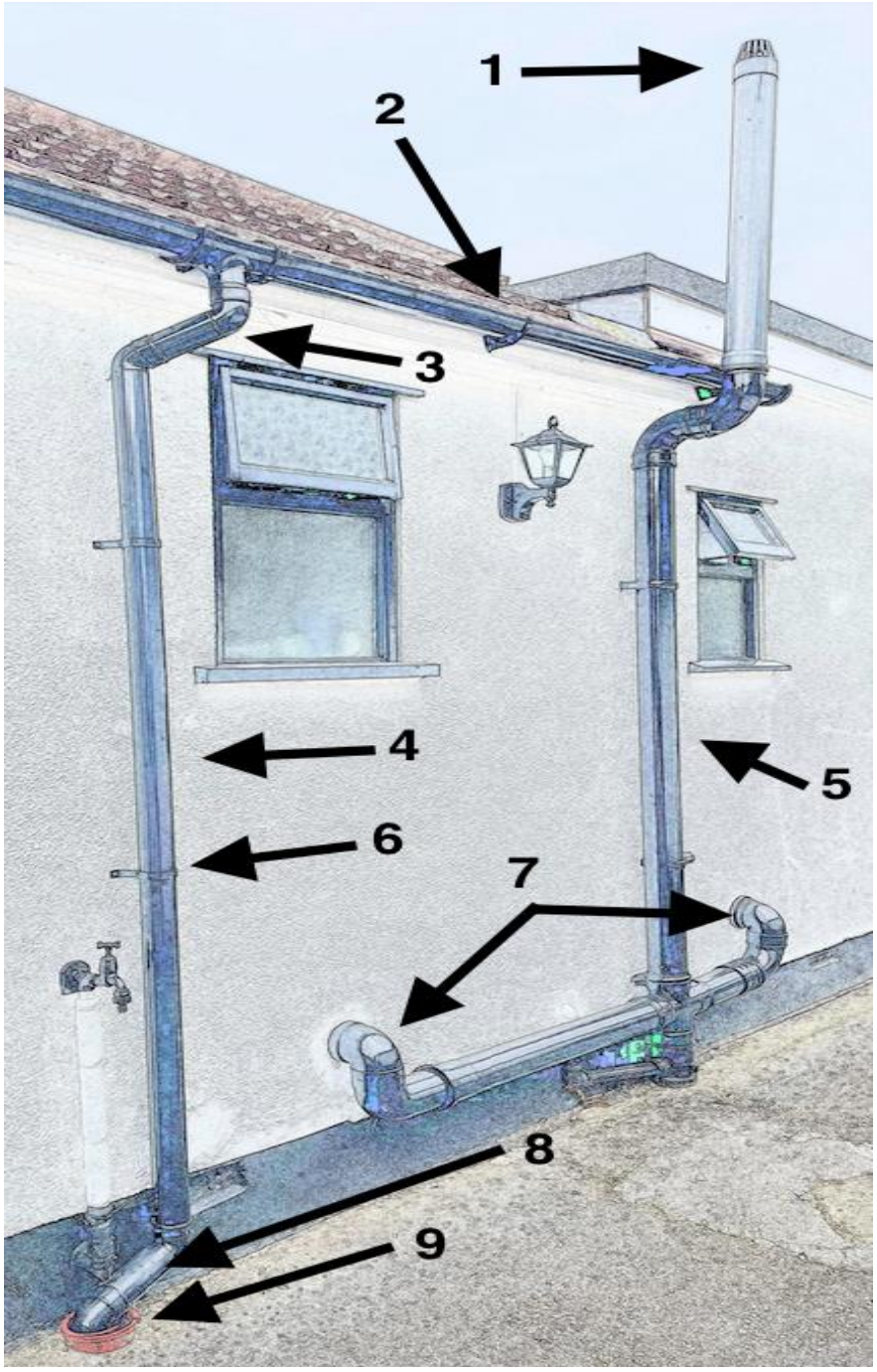
The diagram to the left deliberately does not specify what type of room it is, i.e. Bedroom, Living Room, Dining Room etc. But when describing the specific property you would state the type of room. For example, in a single family dwelling the Ground Floor Front Right Hand Room might be a Living Room, if the property is an HMO it will probably be a bedroom. For the HMO you would refer to it as the Ground Floor Front Right Hand Bedroom.

Similar to this on the first floor back addition the First Floor Back Addition Front Room could be the bathroom, just refer to it as such, First Floor Back Addition Bath Room. The Room located at the Ground Floor Back Addition, will almost certainly be the kitchen.

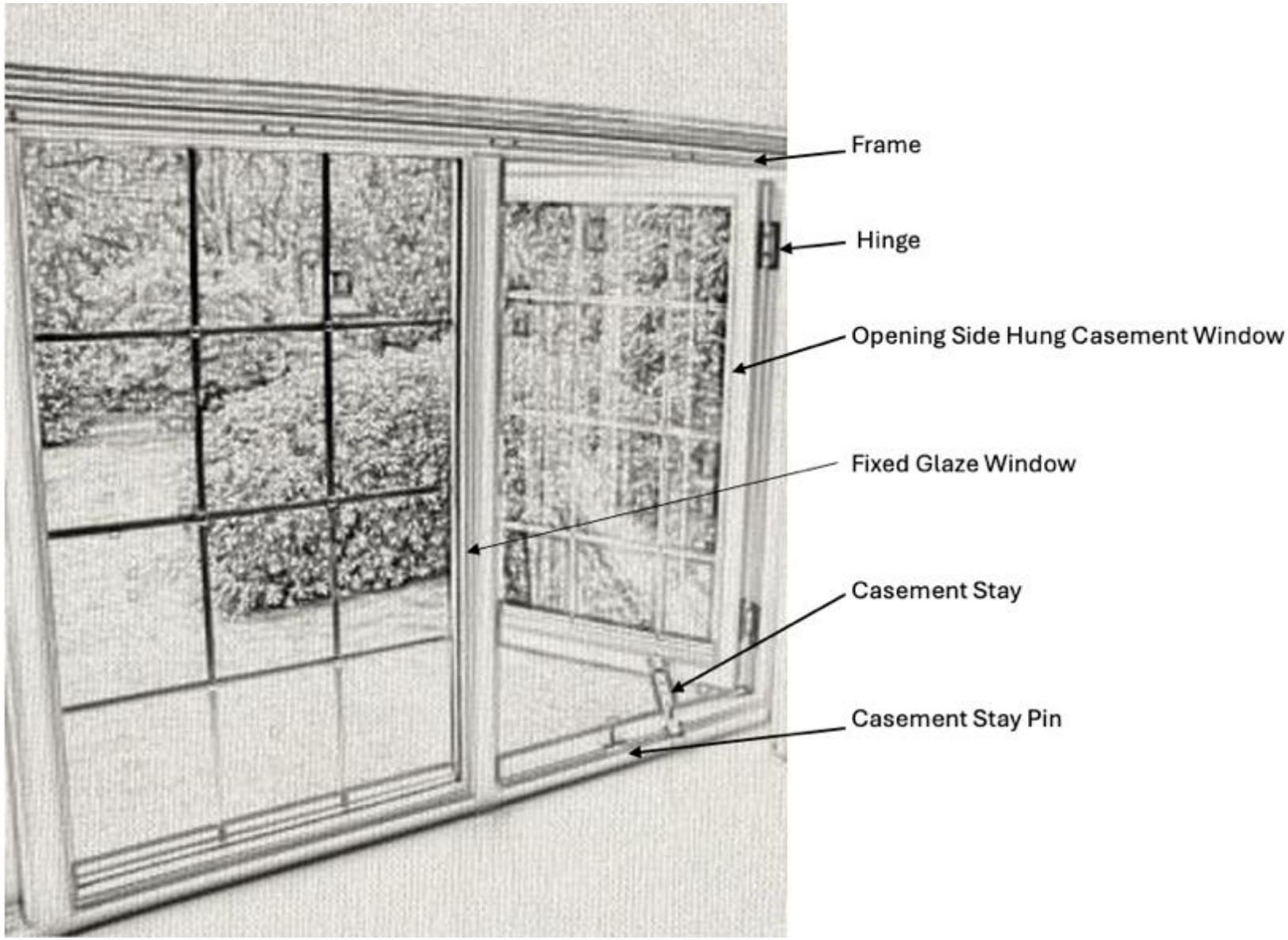
Pre 1920’s mid terrace two storey property with ground and first floor left hand bay window set and gable end roof.

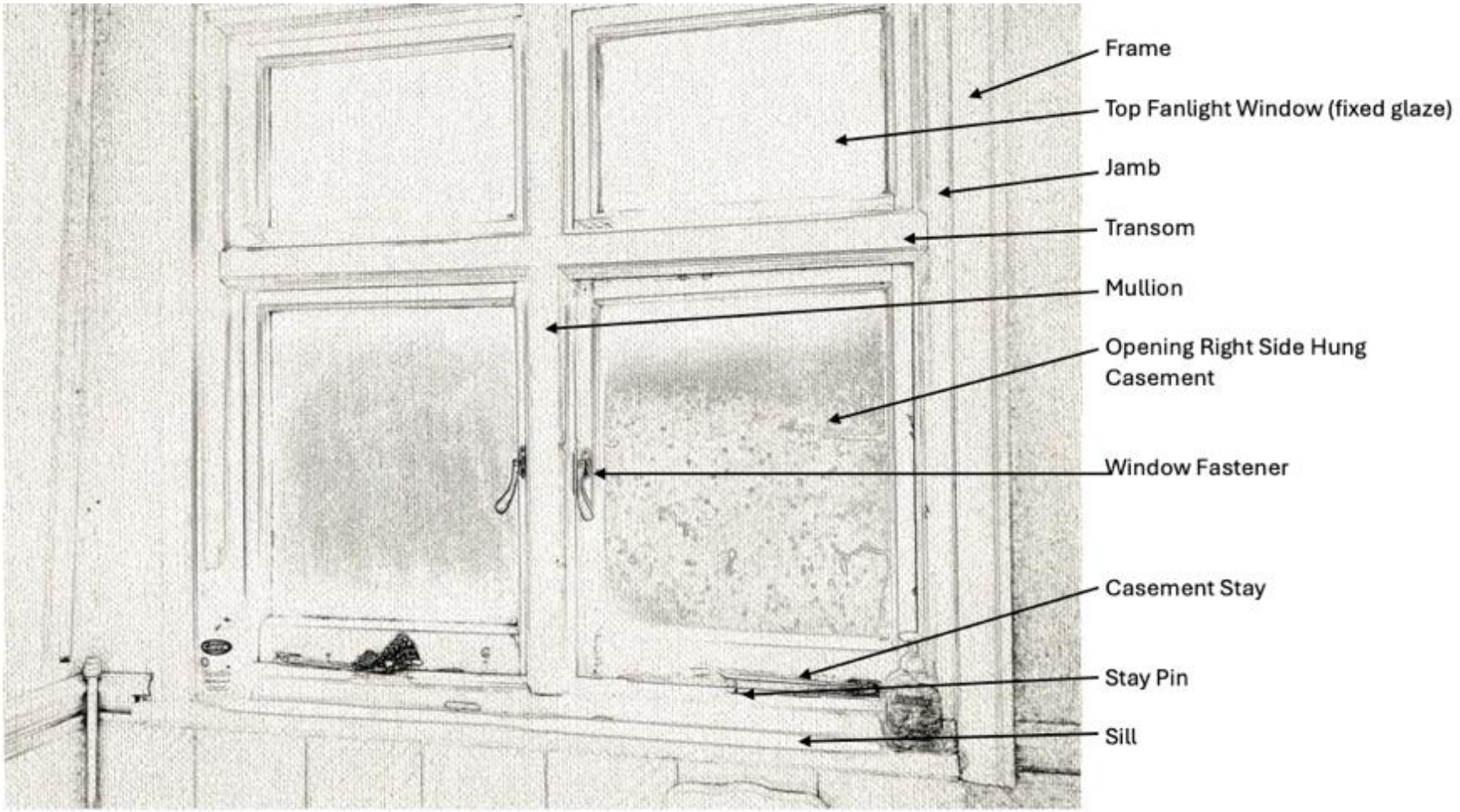
From the outside can you tell what side of the house the staircase is on, and where is likely to be the smallest room in the house?

1. Bird guard
2. Gutter
3. Offset bend
4. Soil Vent Pipe
5. Clip
6. Hopper
7. Soil stack connector
8. Combined waste connector

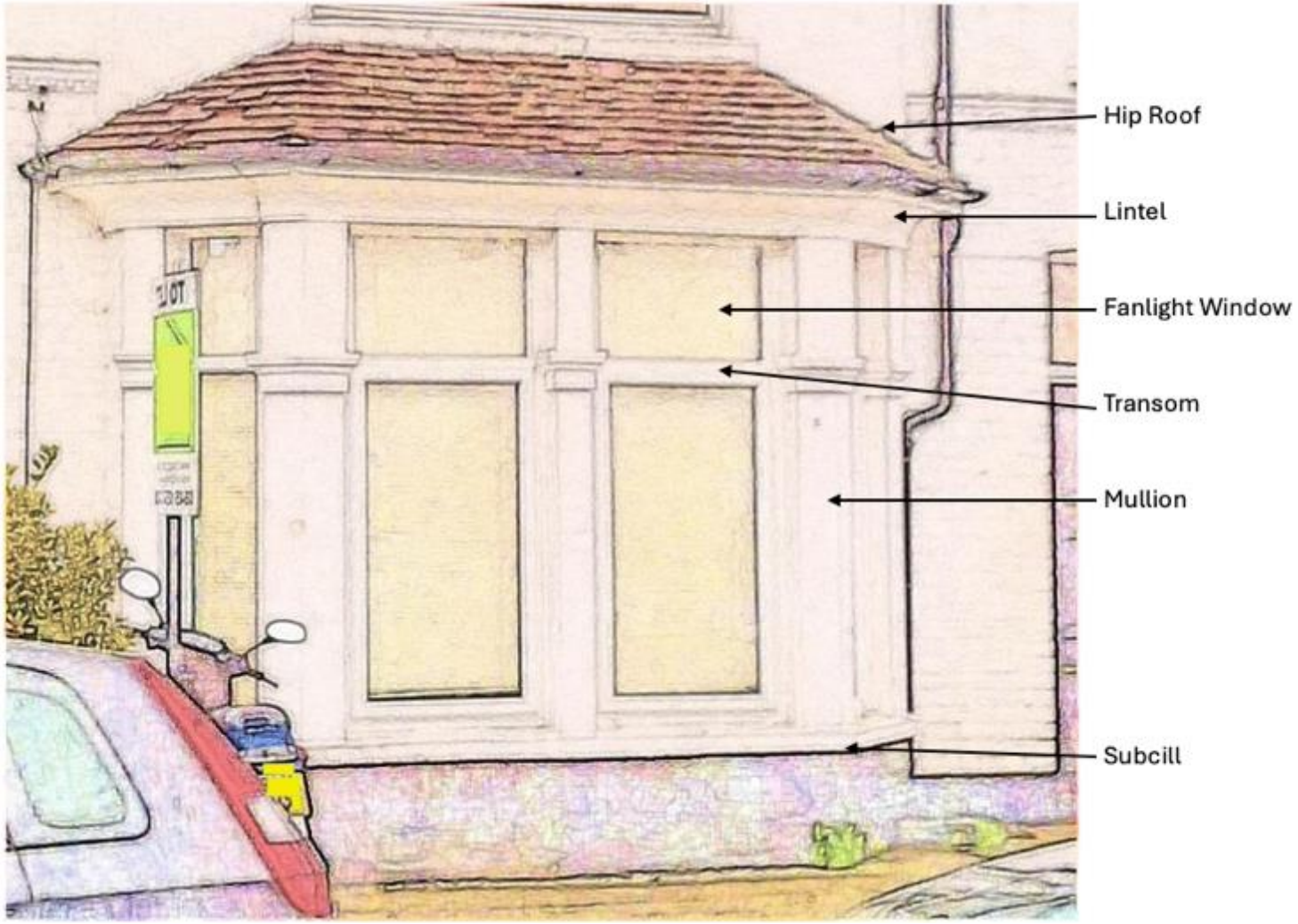


1. Bird Guard
2. Gutter
3. Offset Bend
4. Rainwater Down Pipe
5. Soil Vent Pipe
6. Clip
7. Waste Connectors
8. Rainwater Shoe
9. Gulley


Frame
Hinge
Opening Side Hung Casement Window
Fixed Glaze Window
Casement Stay
Casement Stay Pin



When inspecting windows check to see if they close flush to the frame. Are there any gaps that allow draughts to enter and heat to escape? If it is wooden, is it weathertight or are there any signs of soft wood or rot? For double glazing look at the dark seal around the windows is this intact? For any windows, can you see mist between the panes? On the glass surface is there any condensation? For double glazed windows do they have trickle vents and are they open? Or in dry weather can you see marks where the water runs down? The openable window area should be at or above 1/20th of the floor space. If in doubt measure the floor space, and the size of the openable window areas and work it out.



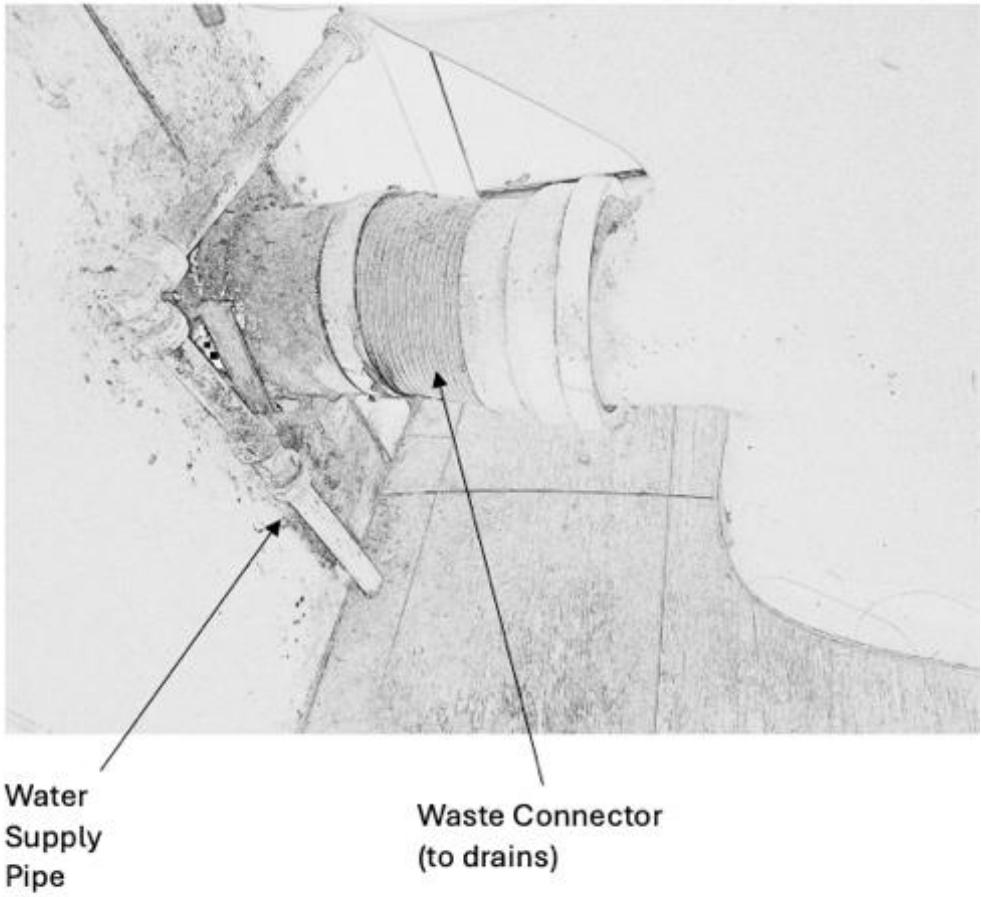
The structure and finishes should be sound and weathertight look at the quality of the stonework is paint peeling away? Look at the Subcills are they broken or intact? Are the gutters clear of debris? If not, are there any damp stains from overspilling? Look at the tiles on the hip roof are any loose?

Radiator Valve

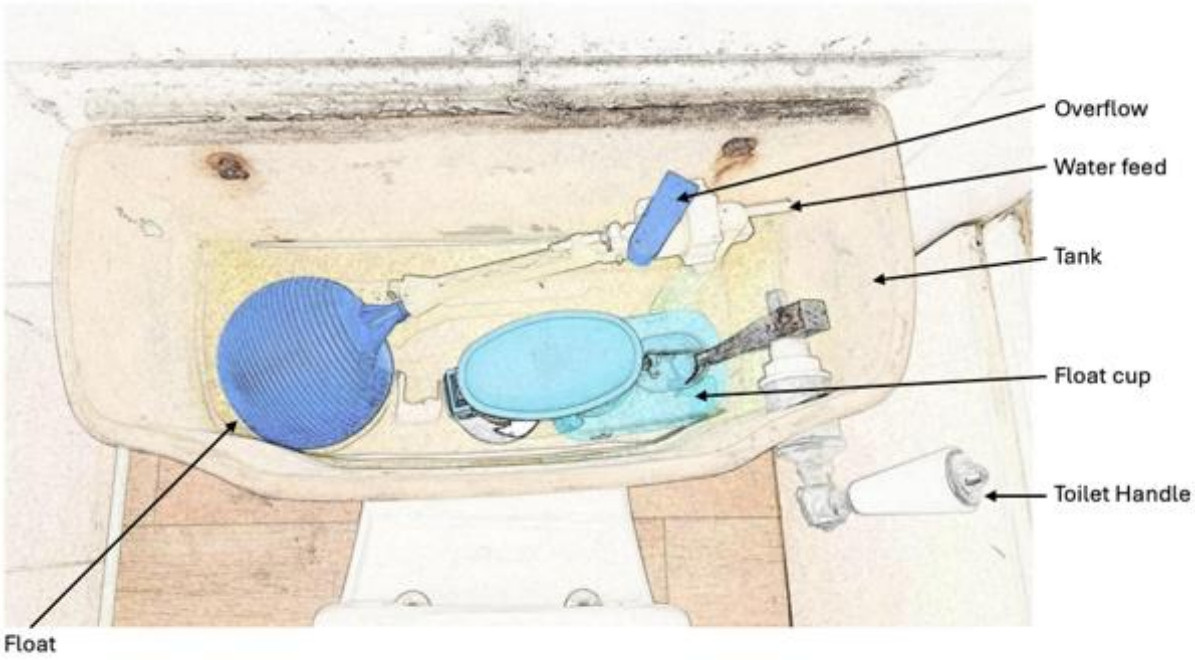
Panel Radiator

Thermostatic Radiator Valve

When investigating excess cold always check the floor around radiators and joints around valves for signs of leakage. When the radiator is on check for cold spots. Look at the position of the radiator in the room and measure the size of the room, is the panel heater suitably sized to be able to heat the room? Most radiator suppliers will have a section on their website where you can input the room measurements, and other house details, to give you the size of radiator required and necessary BTU output for thermal efficiency.



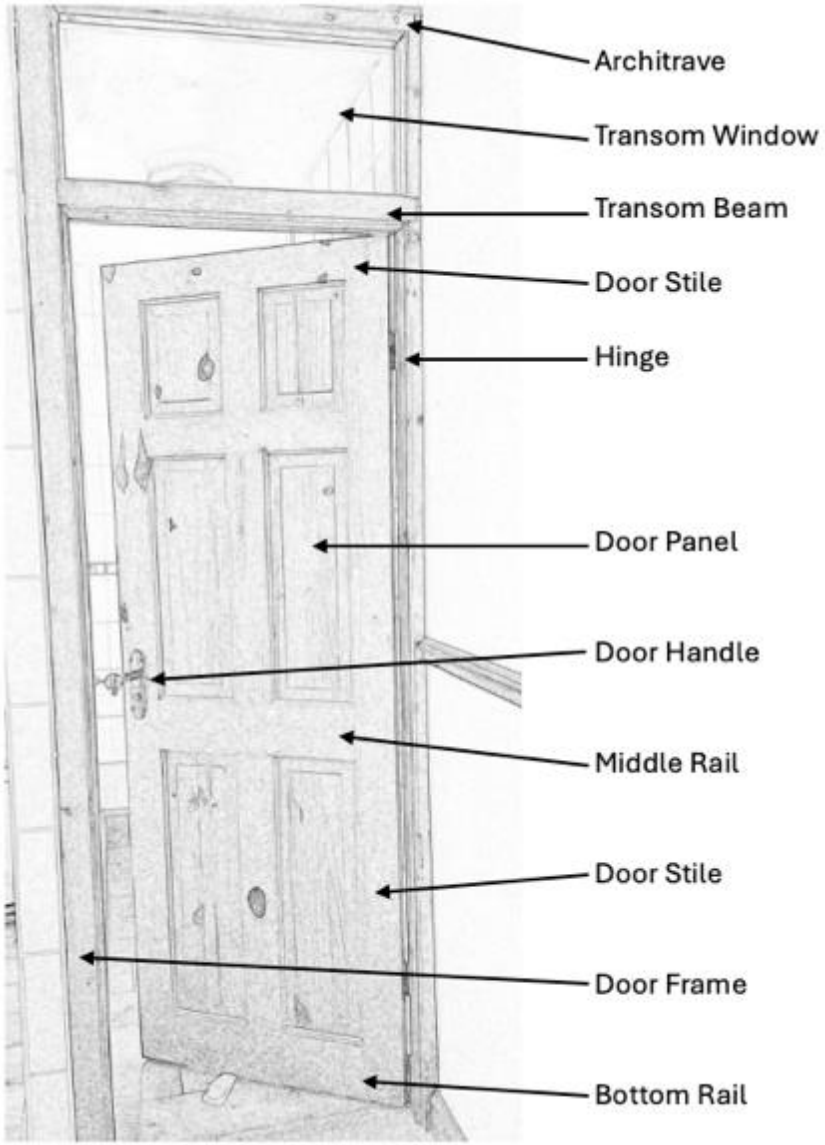
WC means" Water Closet" it is an old-fashioned name for a toilet. The actual toilet is within the WC pan. Always check to see if the WC Pan is securely fixed to the floor. Does it flush away easily or is it holding water? Check around the back of the WC to make sure that the waste connector is fitted securely and that there are no signs of leakage around the perimeter of the WC.



When the toilet handle is pulled it sends stored water from the tank into the WC bowl to carry waste away to the sewer. This pulls up a “flapper“ beneath the float cup allowing water to discharge. The flapper is just a hinged flexible rubber valve. Sometimes when you hear a constant hissing sound from the cistern it is because the flapper has hardened losing its seal and needs replacement.

Constant use can make the flush handle loose and cause problems with flushing. An easy fix is just to tighten the nut.

The float manages the level of the water in a tank. When water is released, the float falls to the bottom of the tank. Flushing activates the overflow outlet to fill the tank up again. As water rushes in the float rises to the service and when it is even this shuts off the valve preventing any more water entering the tank, until the next flush.



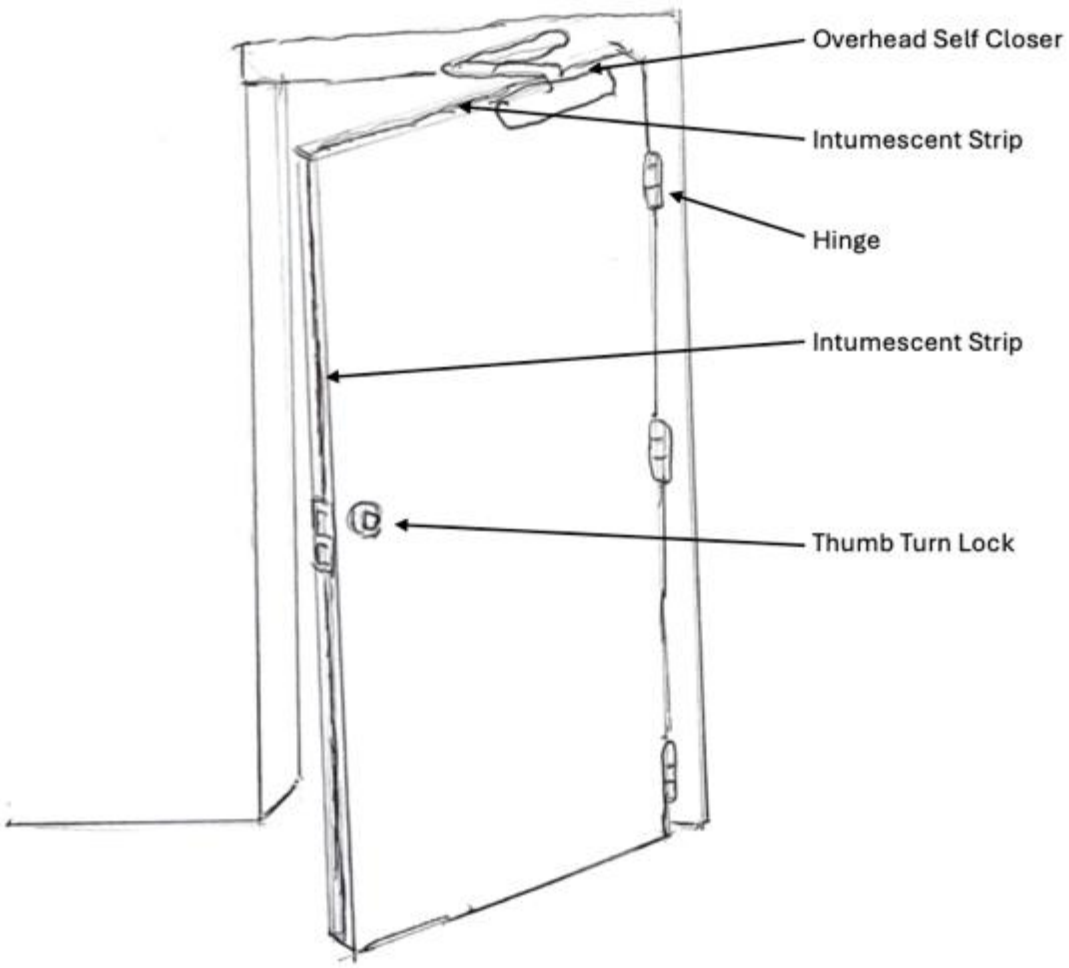
Transom windows sometimes called Transom lights or just Transoms are fixed glaze windows positioned horizontally above doors, either interior or exterior.

They rest on top of the door beam or Transom crossbar from which they get their name.

The Architrave is usually moulded to bridge the gap between a plaster wall surface and the door framework.

When inspecting a door, we want to know if it opens and closes properly and is tight fitting flush to the frame when shut. If it doesn't close properly, we want to know why this is. Are the hinges loose or tight?
Is the handle loose? Does the latch fit the lock keep on the door frame? If not, has the door dropped? Is it warped or distorted in some way?
Can you see any gaps around the perimeter that would allow draughts to enter and heat to escape? Or worse, allow smoke to enter in the event of a fire?

Check that the frame and architrave are not damaged.



A fire door should provide 30-minute fire protection to the room. If unable to evacuate safely this should provide sufficient time for emergency response and rescue.

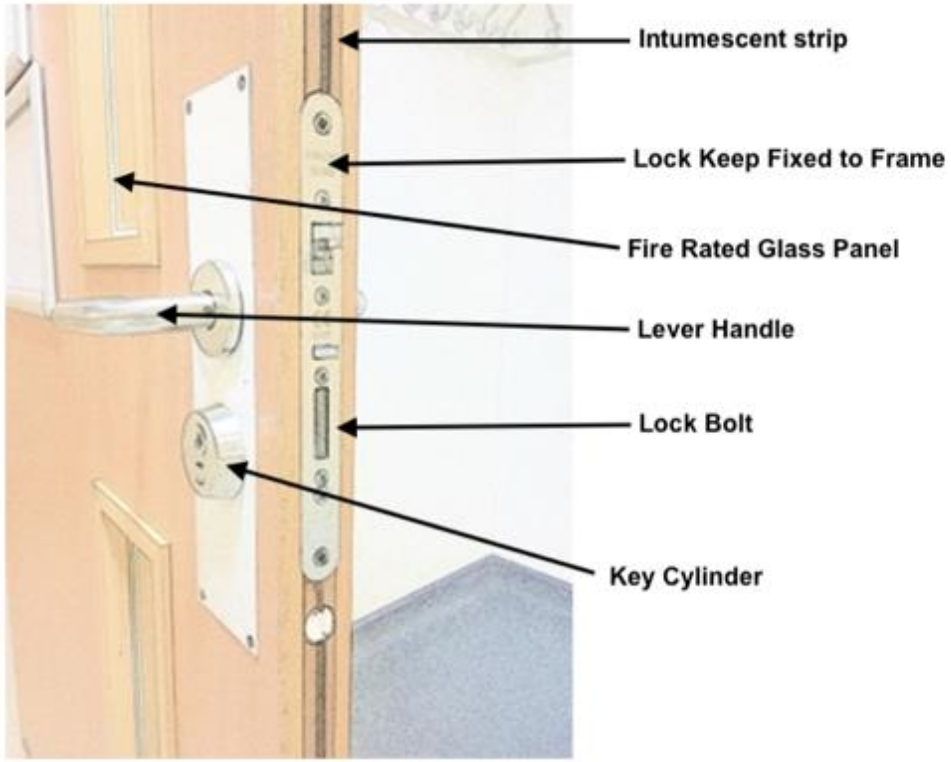
The intumescent strip is fitted around the perimeter of the fire door and will expand in the event of fire and help contain and limit its spread.

Normally in an HMO of three or more storeys we would expect to see all bedroom doors and common parts such as kitchen doors to be fire doors.

When inspecting always check for any breaks in the intumescent strip around the door.

Check that the self-closer works and that the door fits flush to the frame and there are no gaps through which daylight can be seen.

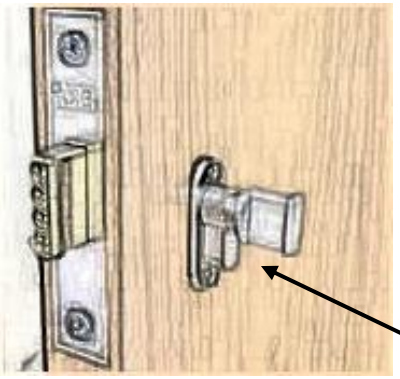
The thumb turn lock on the interior room face of the door is preferable to a conventional lock, (see note on next page).



FD30 Fire doors provide fire resistance up to 30 minutes (minimum).

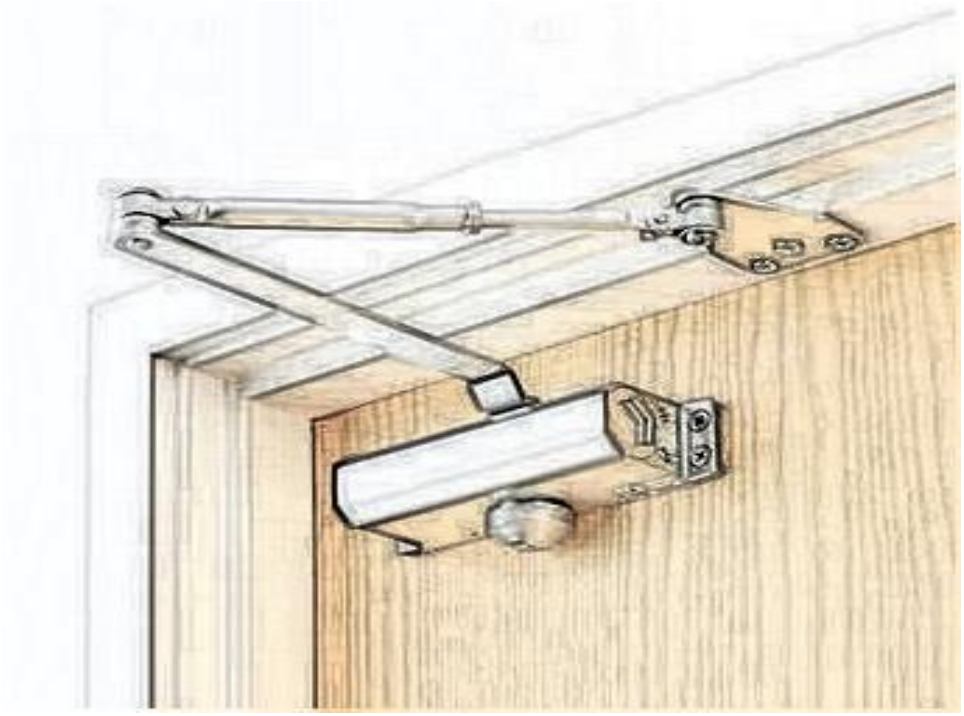
A fire door rated FD30S is fire and smoke resistant up to 30 minutes (minimum). The additional S in the specification indicates smoke resistance.

When examining a fire door pay particular attention if it has been recently painted to make sure that the intumescent strips have not been coated as this will compromise their ability to function under fire conditions.



Thumbturn lock

A thumbturn lock on the interior room side of a fire door is always preferable. For security and privacy in shared accommodation (HMO's) tenants need to be able to close their rooms securely. But they also need to be able to escape quickly in the event of a fire. If a prompt evacuation is required a fire door that has an ordinary key cylinder, lockable with a key, could cause precious minutes to be wasted searching for that key, whereas flipping open a thumbturn lock makes for a quicker and safer exit



Overhead door closer

Hinged Self closer

Fire Doors should automatically close, these types of fixings are the most common. Be aware that there are other types of hinged self-closers on the market now that just look like ordinary door hinges, but they contain a spring mechanism within. A good rule of thumb is to make sure that the fire door automatically closes behind you when inspecting and is fully functional. If occupiers have propped the doors open with a door stop or a chair or by any other means, you need to take this up with them and their landlord (if applicable) and reiterate the importance of containment and separation in the event of fire!

Structural Collapse and Falling Elements, also Damp and Mould (Penetrating Damp)

The Chimney spans two terraced properties. Note that one half of the chimney has some upstand flashing around the perimeter, whilst the half belonging to the neighbouring property doesn't.

The brickwork has been rendered to protect it from the elements. But damp has seeped in between the render and the brickwork allowing weeds to start growing. The damp has caused loss of adhesion between the render and the brick and overtime render has fallen away exposing the brick surface to the elements.

Ideally agreement should be gained from the neighbours to hack off the rendering, remove all the weeds before re-rendering the chimney and making good. Ideally flashing should be applied around the perimeter including the neighbouring properties side of the chimney to match.

Structural Collapse and Falling Elements, also Damp and Mould (Penetrating Damp)

Roof tiles are held in by nails secured to battens which are layers of wood laid between rafters. Sometimes these nails become corroded by weather elements causing tiles to slip.

The loose tiles will all have to be removed and either refixed or replaced, this time using nonferrous nails to fix them to battens. Any defective flashings (another potential cause of damp ingress) would also have to be replaced.

Damp and Mould (Penetrating Damp)

Inadequate proofing around windows, cracks and perished brickwork enable damp to enter.

In houses with solid brick walls this enables penetrating damp to attack interior plaster which will bubble, crumble or flake.

In properties with cavity walls, the cavity or space between the outer wall and the inner wall often prevents damp from reaching the interior. The exception to this is where during construction brick cement mortar was accidentally dripped onto cavity wall ties.

If not cleaned away the cement will harden and form a bridge between the inner and outer walls through which damp can enter.

Personal Hygiene, Sanitation and Drainage, also Damp and Mould (Penetrating Damp)

Guttering should be free and clear of obstruction to allow rainwater to be safely carried away to a drainage inlet. It is not uncommon for gutters to accumulate debris such as Autumnal leaves and they should be routinely cleared out. Climate change has caused regular and more intense storms and can result in more rainwater exceeding the gutters capacity, debris will only make this worse.

At the very least the gutters will need to be scraped and cleaned of debris, renewing any defective sections, making sure they are aligned to properly discharge to suitable outlets.

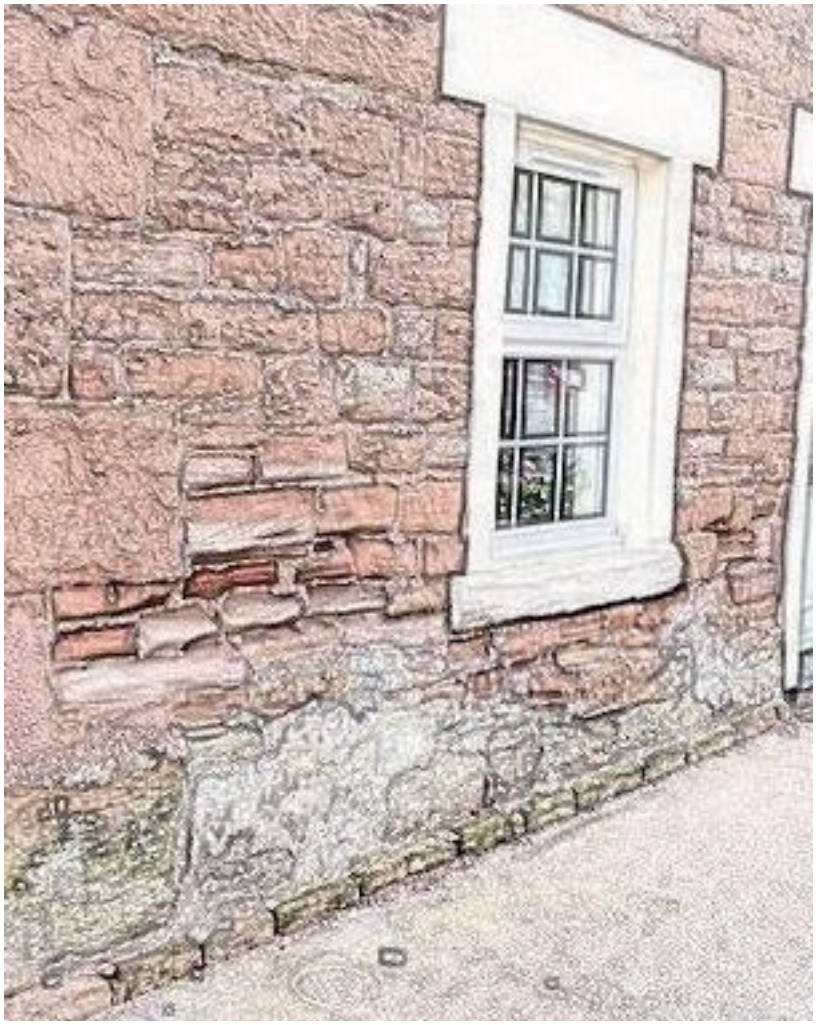
Never be put off from inspecting this type of issue when it is raining heavily. That is precisely the time you need to go out and have a look!

Damp and Mould (Rising Damp)

Rendering is often used on properties with solid brick walls to protect them from the elements. Unfortunately, here you can see that the pavement (laid at a later date) has raised the ground level above the Damp Proof Course (DPC), a protective layer installed to prevent rising damp. Consequently, water penetration has allowed damp to rise between the brick and the render causing it to lose adhesion exposing the brickwork beneath.

At the very least remedial works would involve hacking off all defective rendering. Cutting away a section of the paving along the walls perimeter to create a trench revealing the air grids and reducing the ground level to 150mm below the DPC making good the area and backfilling the trench with shingle to encourage moisture to migrate downwards.
Next re-render the damaged surface and make good.

Damp and Mould (Rising and Penetrating Damp), also Structural Collapse.



In this example rising damp has caused the damage to the wall beneath the level of the window.

We refer to the condition of the damaged brickwork to the left of window as “spalled brickwork.”

Spalled brickwork occurs when parts of a brick have broken off, cracked or crumbled. Bricks are porous and. This type of defect is often caused by water getting into the bricks, freezing and expanding.

This leads to the effect seen here where the surface of the brick has broken away exposing the softer interior. As well as allowing damp to penetrate, this defect can also cause structural damage.

At the very least the perished brickwork needs to be cut out from the wall and replaced with new bricks which should then be repointed to leave the whole in sound condition. An alternative would be to render the wall which not only masks the defect but gives the wall a protective layer that also helps to insulate the building and retain heat.

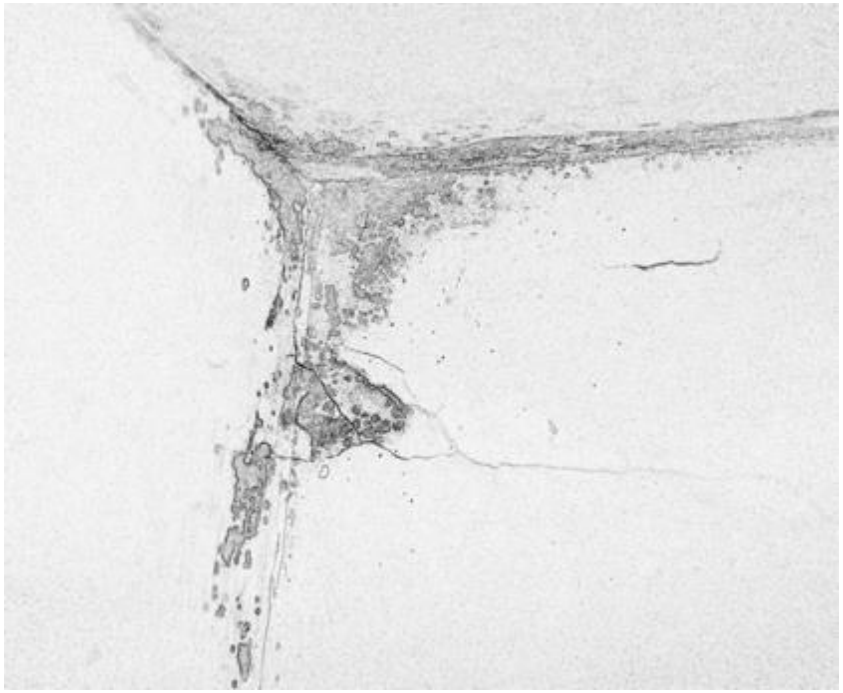
Damp and Mould (Rising Damp)

Internally rising damp makes the internal wall plaster lose adhesion and crumble away exposing the brickwork. This is a particular problem with solid brick walls.

Moisture from the ground travels up through the walls by what is known as capillary action to a height between half a metre to a metre above the floor level. This is usually the first thing people notice when they have rising damp. If the wall is papered this will loosen and often there is a visible damp stain resembling a tidemark. Sometimes you will see a powdery salt pattern where the water has pulled through salts from the brickwork.

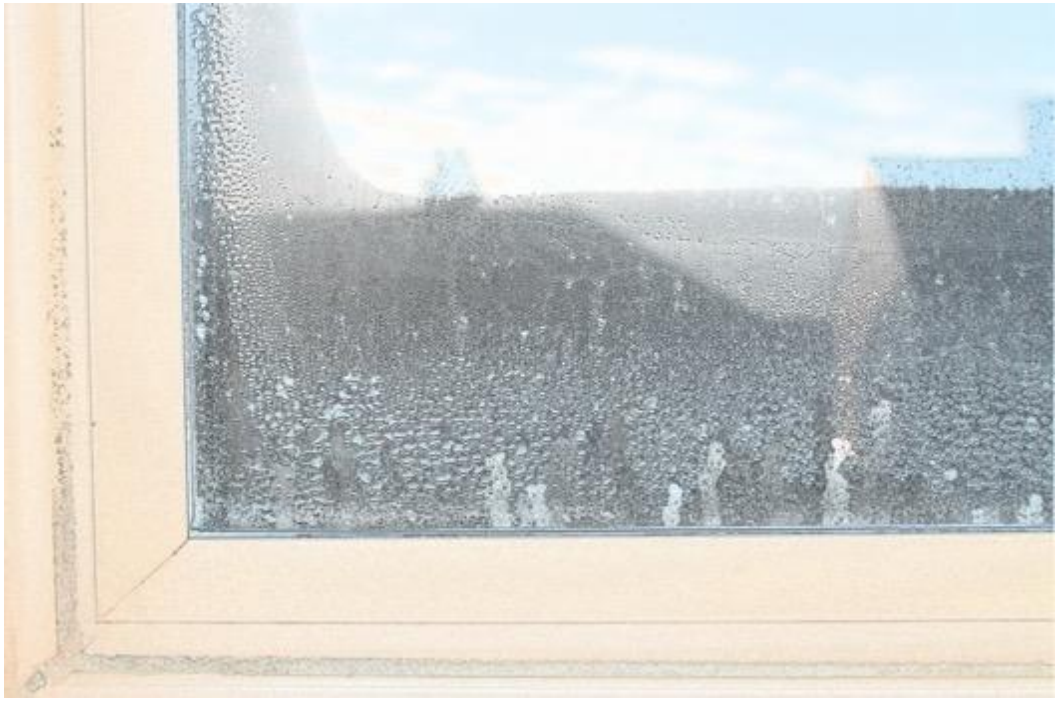
Following damp proof works to the exterior, the damaged internal plaster will need to be hacked off. Brick joints are then raked out to provide grip (or good key) before the wall is replastered. But this must be carried out alongside other recommendations from a damp proof expert.

Damp and Mould (mould and condensation)



Black mould often triggers a complaint. It is caused by moisture movement throughout the property, particularly following cooking and bathing which are activities of peak moisture production in properties. Without sufficient ventilation moisture moves around the property and condenses onto cold facing walls or ceilings leaving these black mould speckled patterns. In kitchens and bathrooms particularly if there are no windows, we would expect to see mechanical ventilation, ideally humidistat controlled to extract moisture during peak production. Occupiers would need to be given advice on the importance of ventilating when the heating is on by opening trickle vents on windows or leaving openable top fanlight windows ajar to encourage moisture to leave the property. This seems counter intuitive to many occupiers not wishing to waste heat, but it is more cost effective to heat dry air than it is to heat cold damp air!

Damp and Mould (mould and condensation)

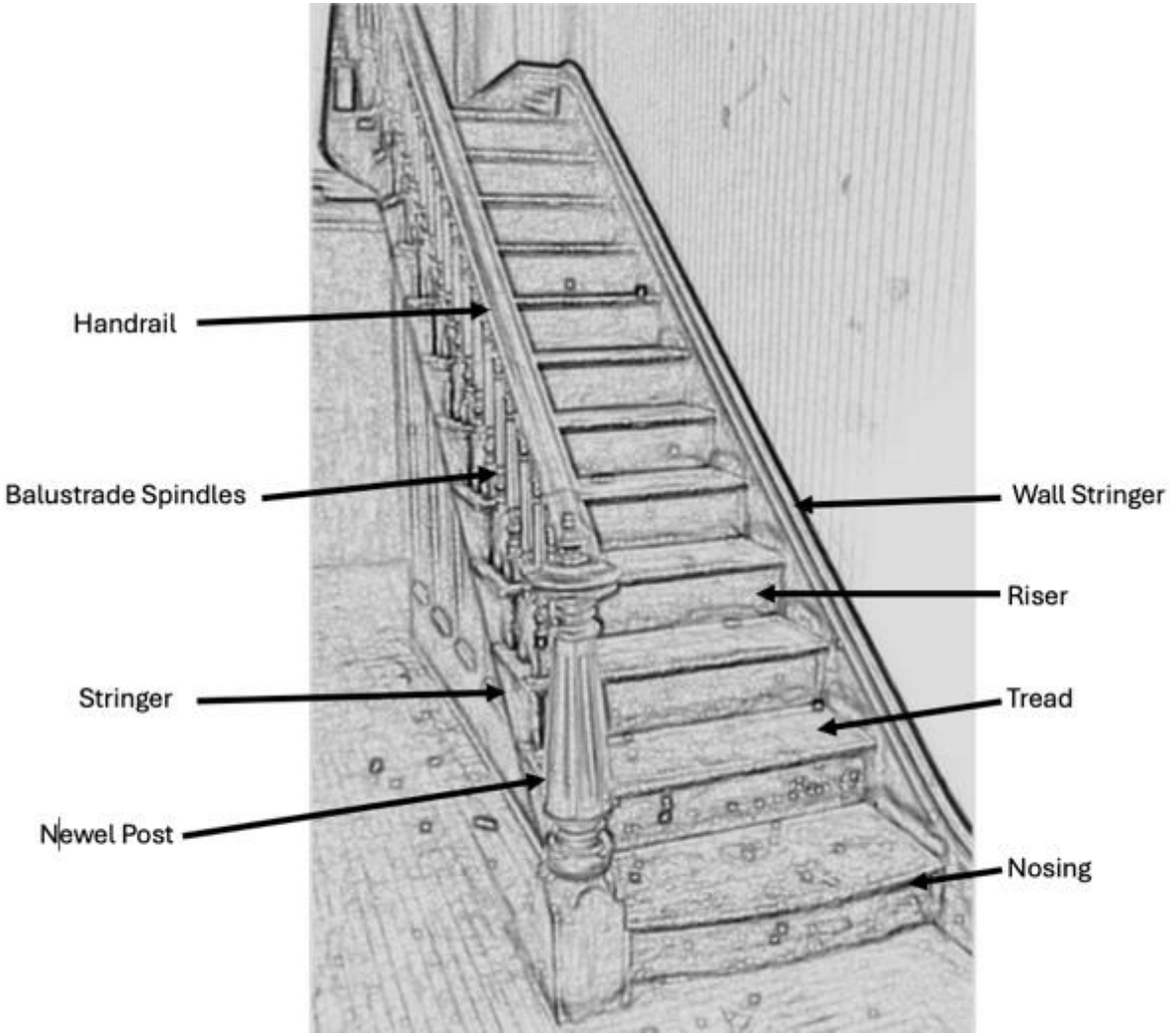


Condensation appears on glass particularly in mornings after the air has cooled throughout the night. It runs down windows to create mould around the framework.

Condensation is often the cause of rot in old wooden framed windows.

Always check if windows or trickle vents are openable. Consider the size and position of the radiator. Often radiators underneath windows allow heat carrying moisture to rise and if windows or trickle vents are open this helps to carry moisture out of the property and prevent it from settling.

Falls on Stairs



A good way to remember the names for parts of a staircase is that you tread on the 'treads' and go up the stairs on the 'risers.'

As you go up the stairs consider the width of the treads are they too narrow? How many steps are there? Are they steep?
Do the stairs feel firm or secure and free from movement?

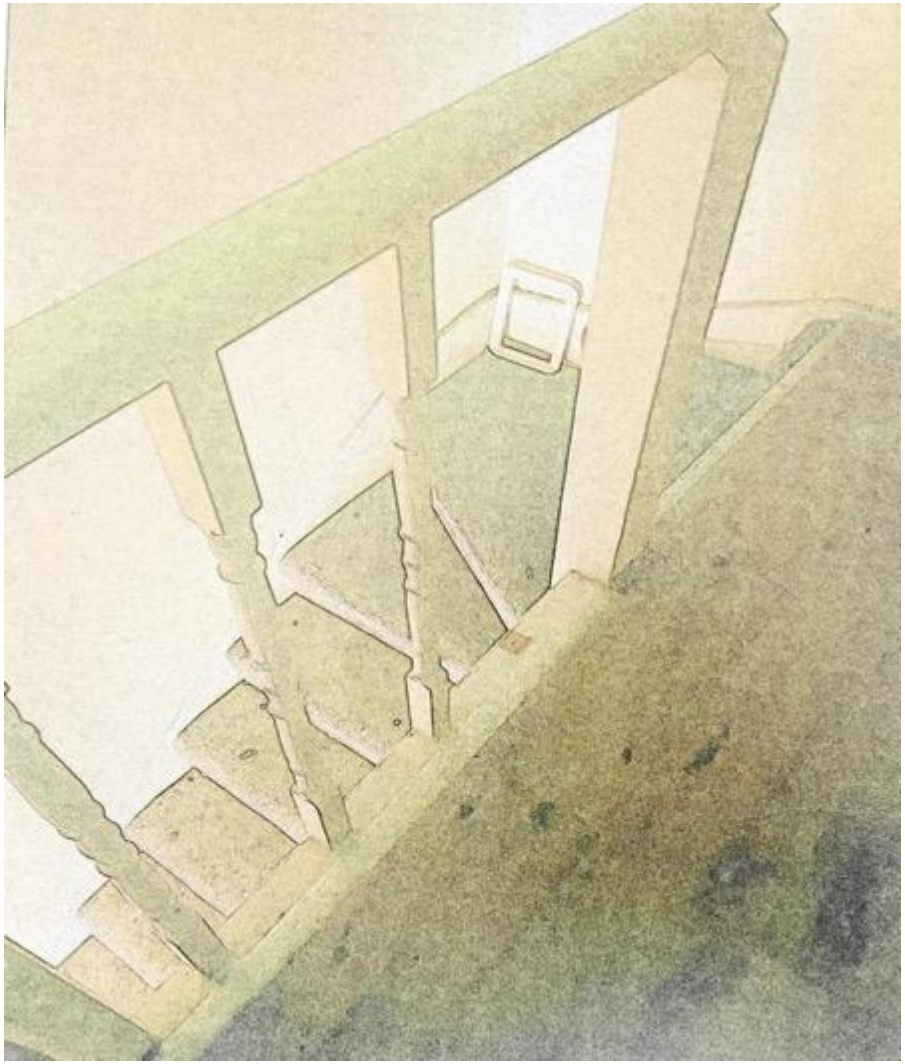
Is there enough natural light in the area?
Is the artificial light sufficient?

Is there a secure handrail to hold that spans the entire length from the top of the stairs to the bottom?

Falls on stairs can result in bruising, fractures, head, brain and spinal injuries. The age and fragility of the person increases the likelihood of serious injury or even death depending on the height of the fall and severity of impact. In elderly people health can deteriorate after a fall and death can occur through secondary causes such as heart attacks or strokes.

An extra handrail on the opposite side of the wall to grab onto when stumbling substantially reduces the risk of a fall.

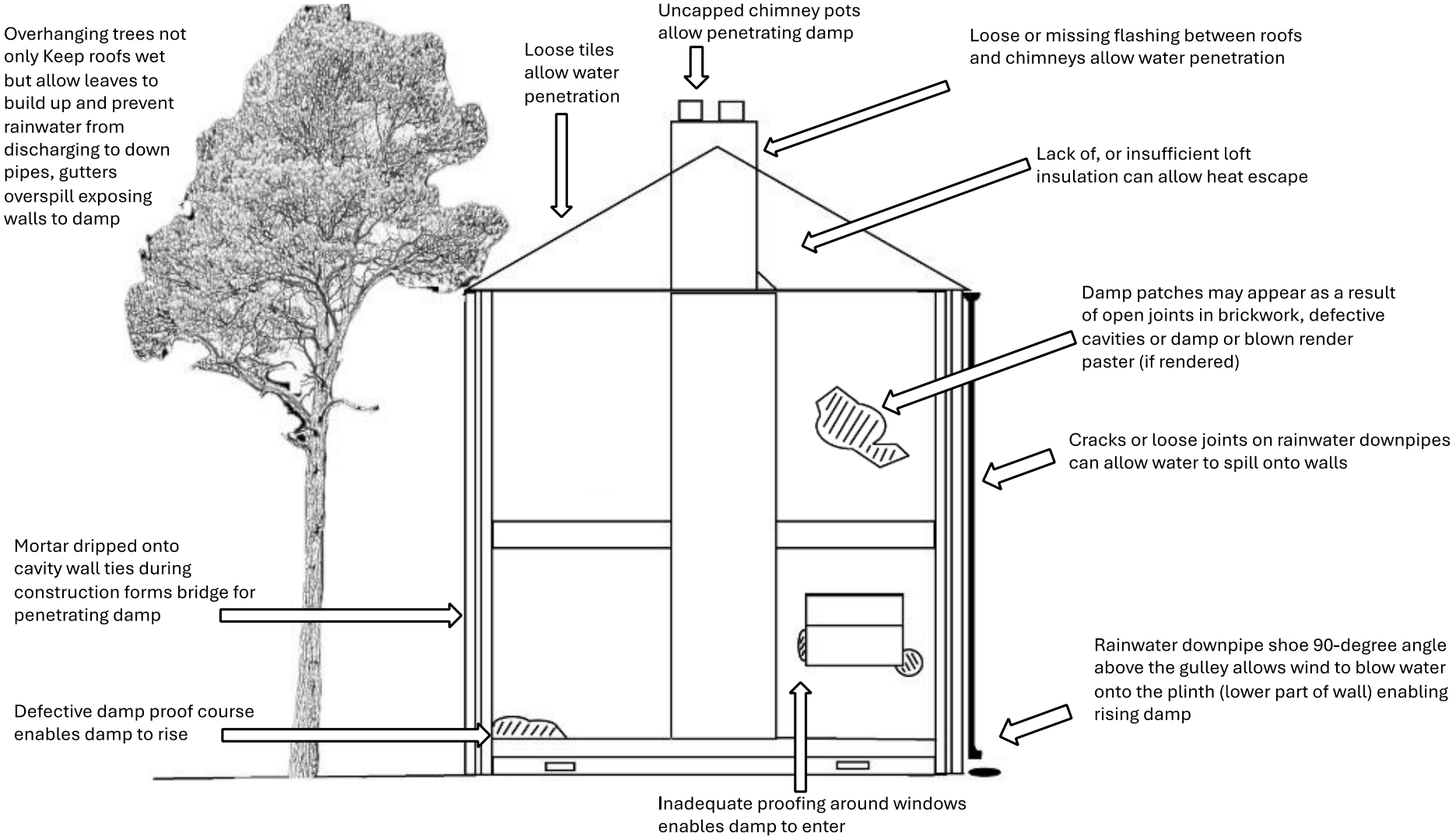
Falls on Stairs



Balustrade spindles should be spaced no less than 100 millimetres (4 inches) apart. This is because it is considered that a small child could slip through or get stuck in a gap that is wider than 100mm.

Always check condition of the balustrade and its spindles to see if there are any missing, or if any are loose.

Some potential defects associated with damp and cold



Contact: To find out more about the Institute for Lifecourse Development, please email: ILD@greenwich.ac.uk

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