



Inspection Summary

In respect of:



Halifax



For: 

Report produced by Simon Hollis MRICS

**FOR AND BEHALF OF
Simon Hollis Limited
14th September 2021**



Inspection Summary

Address:

[REDACTED]
Halifax
[REDACTED]

Surveyor:

Simon Hollis

Date of Survey:

7th September 2021



[REDACTED]



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Signature:  For and on behalf of Simon Hollis Limited

Date of Report: 14th September 2021.

1.0 About this Report

1.1 Address of the Property Inspected (The Property)

██████████
Halifax
██████████

1.2 Brief and Report

Instructions were received from ██████████ on 6th September 2021 to inspect the living room area of the property following concerns raised by the Clients builder, ██████████, ██████████.

1.3 Date of Inspection

The property was inspected on 7th September 2021, 09:20 – 13:50. The weather conditions were warm and dry. Thermo-hygrometer readings of the external conditions were as follows:

Temperature:	20.6°
Relative Humidity:	75.6%
Dew Point:	16.2°
Absolute Humidity:	13.61 g/m ³

Note the high humidity readings on the day of the inspection.

At the time of the inspections, the property was occupied and furnished with fitted floor coverings present.

1.4 The Surveyor

On behalf of Simon Hollis Limited, the survey was carried out by Simon Hollis.

Simon holds a HND in Estate Agency, a Bachelor's with Honours degree in Urban Land Economics, a Master's Degree in Building Surveying and is a Member of the Royal Institution of Chartered Surveyors, membership number 1222795.

Simon is Dyslexic, please excuse any spelling or grammar errors in this report. Specialist software is used, unfortunately, it is not as clever as the developers would have you believe. If anything is unclear, or if you would like to discuss the report and future maintenance of the property, please do contact Simon:

Email: surveying@simonhollis.com Mobile Telephone: 07947 255 270

The survey is carried out on behalf of Simon Hollis Limited of 156 Murray Road, Sheffield S11 7GH.

The Surveyor declares no conflict of interest in inspecting this property.

1.5 Client

This survey report and any associated correspondence is for your personal use only and no responsibility can be or will be taken to others who may see it or wish to depend on it.

1.6 Comments on our Inspection Equipment

A Vaisala HM42 thermo-hygrometer is used to measure the ambient temperature, dew point temperature and relative and absolute humidity. This is fitted with a 4mm probe to investigate areas of suspected moisture ingress, and where possible, the sub-floor area. The external readings are noted above, and in the below tables to aid with the comparison of the external and internal atmosphere. These readings are of most use in occupied properties. In vacant properties where the internal doors are open and there is little heating or ventilation, a lot of the rooms become air dry.

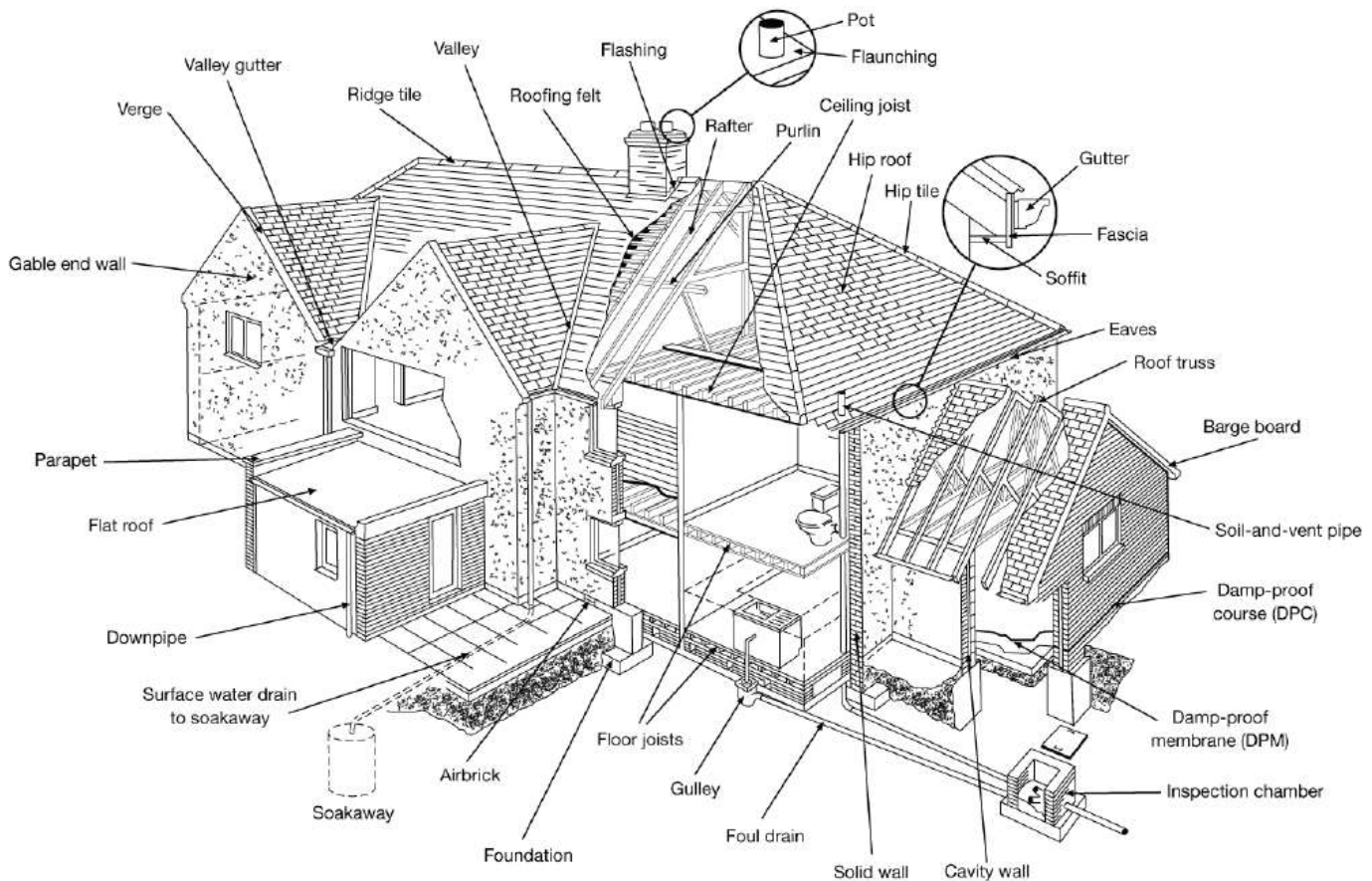
A FLIR E6-XT thermal imaging camera is used to analyse inconsistency in surface temperatures and areas where there is cold bridging, which may indicate the presence of moisture trapped in the building fabric. In the thermal imaging photographs in this report, the temperature at the centre target point is shown on the top left of the photo. The temperature range of all areas in the photo is shown on the right. Again, the camera works best when used in an occupied property where there is a temperature difference between inside and outside e.g., a heated house in winter.

Electrical conductivity meters, sometimes incorrectly referred to as 'damp meters' are only suitable for measuring the moisture content of clean untreated timber and are therefore only used to check if timber is dry as opposed to confirming the presence of moisture.

Where it is safe to do so, a pole camera/drone is used to inspect high-level areas that we cannot inspect from inside the property.

1.7 Diagram of a Typical House

Below is a diagram of a typical house. This is included in the report so that the reader can easily identify the different areas being referred to in the report on the subject property.



Typical House. Credit: RICS

1.8 Abbreviations Used

The following is a list of abbreviations that we may use in our report. This is a generic list that we use for all buildings.

AH	Absolute Humidity	L&P	Lath and Plaster
CA	Conservation Area	MM	Moisture Meter
CDPC	Chemical Injection Damp Proof Course	PP	Planning Permission
CO	Conservation Officer	PV	Photo Voltaic (electricity)
CWI	Cavity Wall Insulation	RH	Relative Humidity
DG	Double Glazed/Glazing	SF	Second Floor
DPC	Damp Proof Course	SG	Single Glazed/Glazing
DPM	Damp Proof Membrane	ST	Solar Thermal (hot water)
FF	First Floor	TH	Thermo-Hygrometer
GF	Ground Floor	UFH	Under-Floor Heating
LBC	Listed Building Consent	WME	Wood Moisture Equivalent



2.0 Observations and Recommendations

Our observations are made as if stood at the front of the property with the right-hand side being the living room.

We only see the property during the course of one day in one season, usually only in one weather condition. It, therefore, may be necessary for you to observe and monitor some items when you move in. If you become concerned about any of the areas, we have recommended that you monitor, please do contact us.

2.1 Living Room

You have advised that you have been having problems with maintaining a comfortable temperature in the living room. To try and address this, you have tried several things including thermal wallpaper, thermal underlay and draft proofing the room. These works have not yet properly addressed the problem. You are currently having the cementitious pointing removed from the stonework and this will be replaced with a non-hydraulic lime-based mix. As part of this process, the builder has inspected the sub-floor void and found that the thermal underlay and plywood over the floorboards has gone mouldy. Two inspection hatches have been opened up and the sub-floor area is evidently very damp. At this point, you made arrangements for us to visit to inspect and advise further.

We have inspected the sub-floor area, ventilation and external areas and detailed our findings and recommendations below.

These dark spots around the perimeter of the carpet are marks where the teeth on the gripper rods holding the carpet down are corroding and this is then staining the carpet as it gets damp.



Example of mildew on the top side of the thermal underlay.



Example of mildew on the back side of the thermal underlay.

When the issues have been resolved, we do not recommend that the thermal underlay is reinstated.



Example of plywood sheeting that has white mould and mildew present all over its surface.

When the issues have been resolved, we do not recommend that plywood sheeting is put back down.



Example of mould on the floorboards under the plywood sheeting.

Once the various layers above this have been removed, this can be cleaned off with a 1:10 solution of household bleach and hot water.

Usual health and safety precautions to be taken when working with bleach.



Example of the draft proof strip between the floorboards and skirting boards.

We recommend that these are removed and not reinstated.



Example of the membrane that has been put against the walls. This membrane was dripping with condensation at the time of our inspection.

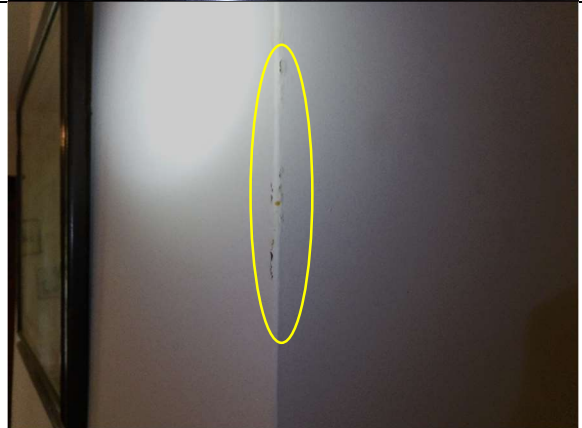
We assume that this system has been used along all of the walls and sits behind the plaster. Any condensation that is building up behind this membrane will trickle down it and run into the sub-floor void from where it is struggling to escape. Repointing the external mortar joints will assist the wall in managing its moisture and reduce condensation problems as the drier wall will be able to better use its thermal mass to hold heat.



Below are two photos of the television cabinet. It is important that built-in furniture has ventilation to it too. A vent should be created in the base of the unit and also on the top, this does not need to be anything fancy, a decorative vent could be bought and then holes cut to the size so they are obscured from view, but still serves their purpose e.g. it could go behind the television as per the right-hand photo.



Moisture is getting up behind the plasterboard bead and causing corrosion of the bead. This is a difficult problem to cure as corrosion staining is very difficult to eradicate, especially where there is still moisture present.



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Whilst managing the disruption of dealing with the sub-floor area, it would be prudent to consider whether or not to remove the wall finishes to remove the plastic membrane from the walls. We cannot be certain what sort of problems this is causing without removing it, however, this system is not something that we would recommend is present in a traditionally constructed building. As noted above, the membrane is dripping with condensation – this may be building up in the membrane up to ceiling height or it may be water vapour rising up from the sub-floor and thus not go all the way up.

As there will be additional disruption and cost to doing, this, this is a decision only you can make.

If it was my own home, I would remove it and put up with the inconvenience if I could afford it.

Should you decide to do this, we recommend that the walls are built back up in non-hydraulic lime plaster. Usually, this is built up in three coats, however, if the stone is flat, you may be able to just use two coats. Once the walls are dry, the thick stone will provide good thermal mass and retain heat (when the wall is wet, its u-value increases and it becomes very hard to heat the room). If you wanted to increase the insulation properties of the wall, you could put a coat of lime plaster and hemp shiv on the wall. If you are considering this, I am happy to discuss this with your builder, ██████████. Once the plaster has carbonated, it should be redecorated with clay-based paint e.g. Earthbourne.

The skirtings seem to be sound so you could probably re-use these. You could also use a multi-tool to cut the plaster off below the coving so this does not have to be re-done, as it is not a particularly easy job with ornate coving.

As the original open fire has been removed and replaced with a modern alternative, the room has lost its source of passive ventilation. Consideration needs to be given to how to replace this ventilation to prevent the build-up of condensation in the room. A passive ventilation hole would be the 'no-frills' approach that I would usually recommend. I am concerned that the reason you started down this track was that the room was too cold to be usable so consideration should be given to a small heat exchanger unit to facilitate air changes without losing all your heat. I would consider something like this appropriate: <https://www.cef.co.uk/catalogue/products/1785356-single-room-heat-recovery-unit-with-humidistat-timer-and-pullcord-white>.

2.0 Sub Floor

We have inspected the sub-floor area via the two inspection hatches that the builder has made against the rear wall. We have not inspected any other areas and assume that the sub-floor is in the same condition as the area around the hatches.

Inbetween the external wall and the right-hand timbers (other areas may also be affected) there is sopping wet dirt/debris packed up against timber. This has probably got wet due to the condensation dripping off the blue membrane that is behind the walls.

All of this debris should be removed as soon as possible – having wet dirt up against timber will cause decay.



Timber is packed up on timber, this is not ideal and the timber would be better packed on slate.

As there is so much moisture in the sub-floor area it is difficult to tell exactly what is going on here, however, the packers are saturated.



In the sub-floor area, sleeper walls support the floor joists mid-span so that they do not have to be as deep as they would be without support. These walls are usually built in a honeycomb formation to allow a better cross flow of ventilation to the sub-floor area. Here, there is just the odd gap between the bricks. This, combined with the inadequate ventilation is contributing to the build-up of moisture. When the floor is lifted, it would be a good idea to increase the gaps in the wall, as long as doing this does not compromise its structural integrity.



This is ideally what the wall should look like.

Credit: diydoctor.org.uk.



Underneath the left-hand of the two inspection hatches, there is an area of dry rot, note the yellow tinges to the fungus.

Whilst the timber is still wet, it is not possible to determine the extent of the damage. At the moment, the timbers still look in acceptable condition; however, they may distort and crack as the timber dries out and some cutting back/support may be necessary.

In the first instance, the treatment for this needs to be to reduce the humidity in the sub-floor area, which ranged from 90.6% - 95.6% at the time of inspection (and with the hatches open to the room). Cutting off the fungi's access to moisture is the most effective way to stop it from spreading. We have detailed this further down.

There is a lot of misinformation on treating all types of timber decay and insect attack, and if you choose to read up on this, we urge caution into the 'mystical' type treatments. Information by Dr Brian Ridout is reliable in our opinion.



There is debris in front of the rear sub-floor vent and part of the inner leaf of stone is missing.

We recommend that this area is cleared and the stone re-built.

See below for more information.



Pipes in the subfloor area are not lagged. This cause condensation to form and drop down onto the ground beneath and pond.

All pipes in the sub-floor area should be lagged (and electrical cables properly clipped up to joists).



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With regards to drying out the sub-floor, there is not one prescribed method for this and to some extent, it depends on how much you are considering spending and how much inconvenience you can put up with. Our thoughts are as follows:

- Open the three windows as much as possible (without compromising your security).
- Remove furniture to room next door if possible – the fabric is holding moisture at the moment as it feels damp to the touch
- Roll up the carpet and underlay and set aside.
- Remove and dispose of thermal underlay and plywood sheets.
- Clean mould off floorboards as described above – it’s probably easier to do this with a mop and bucket whilst the floorboards are down than any other way.
- If you are planning to remove the plaster and plastic membrane, this would be the point to do this. If this was our house, we would undertake this work.
- Decide how ‘extreme’ (for want of a better word) you want to go with the works. You could start at one side of the room and lift all the floorboards with a pallet breaker tool and lots of care. This would allow all of the subfloor timbers to be checked and once lifted, the sub-floor area, timbers and walls would dry out quicker. If this is too extreme, further access hatches could be made around the room, checks to timber made through the hatches when left open, the sub-floor would then vent into the room. Fans and some gentle background heating would help the process along. It is important not to try and force dry the areas too quickly as once the moisture in the fabric has lost contact with the moisture on the surface, it becomes very difficult to dry the fabric out.
- It is then going to be a case of waiting until the sub-floor area and the room have dried out and the humidity stabilised. Ideally, the atmospheric conditions in the sub-floor area should be aligned with the external atmospheric conditions when monitored over a few days. During the last few weeks, the external humidity has been high in the daytime so it is important that not just one point of reference is used. As unscientific as it sounds, you will be able to notice the difference once the room and sub-floor are properly ventilated.
- Once the room has started drying out, thought needs to be given to additional sub-floor ventilation which we have detailed further below.
- Once a state of equilibrium has been reached, the timbers should be re-inspected to ensure they are sound once they have dried out. As detailed above, some additional support may be needed, likely in the form of some treated timber trimmers and/or brick piers.
- A temporary floor could be used in the daytime if you wanted to begin lime plastering the room if the walls dry out before the sub-floor. Ventilation needs to be maintained as you will be introducing additional moisture into the room and the lime will need airflow to properly carbonate.

2.2 External Areas

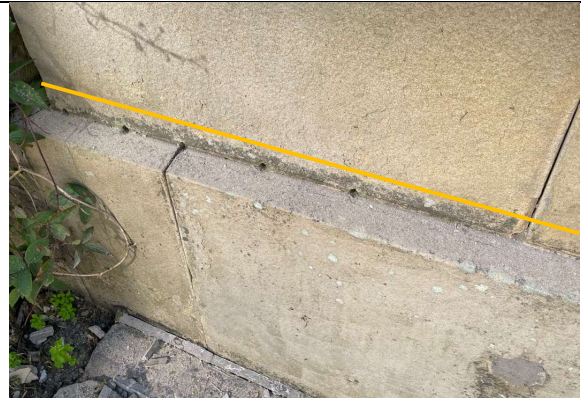
A line of holes along the top of the plinth course indicated where the walls have been drilled and injected with a chemical injection damp proof course.

In our opinion, this treatment is ineffective.

These holes should be cleaned out with a vacuum and nylon brush and then properly filled with a non-hydraulic lime mortar mix well packed into the holes.

It would also be prudent to carefully, by hand, rake out the mortar joints between the stone and carefully repoint these with the same mix. The joints are very tight, and great care should be taken with this.

To the front elevation, there are two air grills to ventilate the sub-floor. This is not enough and a third should be fitted to this elevation as a minimum.



To the rear elevation, there are three small air bricks under what was the old doorstep. Again, this is not sufficient for a room of this size that only has ventilation on two sides.

First, the internal area in the hatch should be observed during heavy rainfall to ensure that rain/surface water is not getting into the sub-floor area when it rains. If it is, then a plan needs to be formed on how best to deal with this. You could mimic this with a hosepipe and spray gun.

Second, you should speak to your builder to see if they can put in two additional vents close to either end of the wall.

It would be good to get to the point where there is at least 1 per meter.



We recommend that throating is detailed into the bottom of the windowsills. This can be done with a chisel or very carefully with a multi-tool or grinder. Care needs to be taken.



There is a redundant vent in the living room that comes out behind a radiator. This has been filled externally with expanding foam and internally with the surface finishes in the room. As it is behind a radiator, it is difficult for this to be opened back up to serve its original purpose of ventilating the room.



Rainwater from the roof comes down this fall pipe and runs along this open gully.



There are gaps in this gully that will cause rainwater to go down around the footings of the house. Some of this water could be getting through into the sub-floor void. All pointing should be carefully removed and the gully repointed in a flexible mortar mix.



There was previously a wethered mortar fillet between the base of the wall and the gully. This has disappeared in places. We recommend the remains are removed and the fillet reinstated in a non-hydraulic hot lime-based mix.



There is some debris in the gully. This should be cleaned out to aid its operation and prevent a blockage further down the drainage system.



Whilst we were on site, we had a quick look on the roof. The perimeter is formed in hot asphalt which is not uncommon for a roof like this. Lead would be better. Some of the outlet details do not look like they have been very well-formed. For example, the one in the photo on the left does not have the asphalt detailed into it, the one on the right does. Rainwater could be getting down the sides of here and leaking internally. A plan needs to be formed on the best way to repair this. We are not experts in this type of roof, but could research repair options if you like?



There are also some cracks in the asphalt that need to be repaired.



There are several damaged slates, we have included some photographs of examples below. These should be replaced as soon as possible.



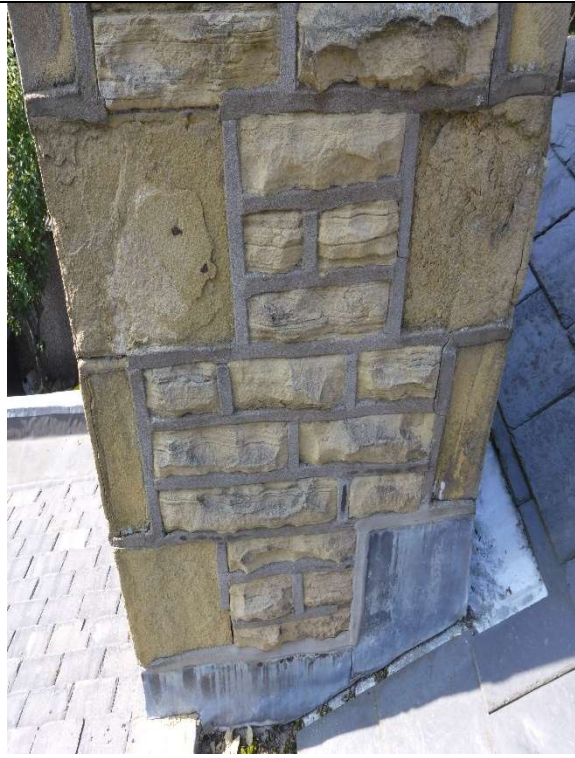
Here, two broken slates have been poorly repaired with mastic. These slates should be replaced as soon as possible.



The upstands are dressed in lead. Unfortunately, there are some tears in this which should be repaired as soon as possible. A temporary repair may need to be affected first before the lead can be bossed.



Chimney stack – some of the stones appear to be bedded on their side and have started to delaminate. There is little that can be done about this without re-building the stack. The cementitious pointing should be replaced as soon as possible with a hot lime mix so that the moisture stress within the stack is reduced thus preserving the stone.



The outlet on the right-hand side is higher than the roof covering meaning water has to be ponding up to it before it can get down the outlet. This is why there is debris built up in this area. Again, asphalt is a specialist area and advice should be sought on the most appropriate way to address this.

