

5250: 2011 (Code of Practise for the Control of Condensation in Buildings) clearly states on Page 19 the following:

B 8: Measurement of dampness

Accurate measurements of the moisture content of brick or mortar cannot be obtained by the use of electrical moisture meters because the presence of salts increases the electrical conductance of the water, giving falsely high readings. Gravimetric methods carried out on samples taken from the fabric give the most reliable results. The use of chemical absorption type moisture meters will give a result in a short space of time and be almost as reliable.



‘Damp’ Meter used by Surveyors

(N.B. Structural Surveys UK **do not use these devices** due to their unreliability)

Our approach for assessing damp in walls is to check for any obvious means of rainwater to penetrate the wall thickness and migrate through to the internal wall surface which can lead to blistering emulsion / plasterwork, unpleasant damp smells, ‘brown’ stains on walls or indeed black mould marks). This includes (but not limited to) checking the condition of the external masonry wall surfaces, mortar joints and render where applicable. Also, to check peripheral roof drainage remains in good condition and is not discharging rainwater down the face of the external walls (which would otherwise encourage damp to form internally), external ground levels, damaged below ground drainage (where possible). Internal wall finishes also provide an indication whether damp is present (as described above).

If damp is suspected at a level that would be detrimental to the performance of the building then we would undertake testing of material samples (e.g. in a laboratory facility or onsite Gravimetric tests) to assess the actual level of moisture present. However, before any testing is considered one has to detect its visual presence first and assess whether a material sample test is justified (N.B. material sample tests are outside the scope of this report).

Internal Condition

Roof Void

There was limited access to inspect the roof structure due to lack of runner / floor boarding in the roof space. Our inspection was performed by access adjacent to the loft openings to ensure the safety of our engineer and also to prevent any damage to exposed ceilings within the roof void. The layout and configuration of the internal roof structure can be seen in Photos 89-94.

The structural timber framework consists of primary and secondary rafter sections supported at the top of the load-bearing walls and extending diagonally up to the ridge level where they abut the rafters from the opposite side of the roof. The secondary rafters are supported by a number of purlins equally spaced along the length of the rafter which in turn extend between and are supported by the gable walls and primary trusses.



Photo 89 – Timber Roof Frameworks (Main Roof Void)



Photo 90 – Timber Roof Frameworks (Main Roof Void)



Photo 91 – Timber Roof Frameworks (Main Roof Void)



Photo 92 – Timber Roof Frameworks (Front Roof Void)



Photo 93 – Timber Roof Frameworks (Front Roof Void)



Photo 94 – Timber Roof Frameworks (Front Roof Void)

The layout of the principal structural members is suitably configured to support the external roof coverings (tiles) as well as external loading (snow and wind).

There was no obvious indication of distress or misalignment of the structural timber members, i.e. noticeable deflection, bending or torsional (twisting) effects that would otherwise suggest potential issues with the structural integrity of the roof. The majority of the timber frameworks have water markings / apparent surface rot across their surface areas. This would be expected as the building would not have had roofing felt present when it was first built and so would have been susceptible to wind driven rain migrating beneath the roof tiles. Also, following the installation of roofing felt when the roof tiles were previously changed, there was no provision for passive ventilation and so the roof timber frameworks will have been subject to condensation build up within the roof void space, which can encourage dry rot to develop. We'd recommend that the roof timber frameworks are suitably treated to negate any further deterioration - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Overall, the strength and stiffness properties of the structural timber frameworks appears to remain adequate and the condition of the structural timbers is as one would expect for a property of this type and age, although treatment should be carried out as noted above.

Roofing felt was installed to the underside of the roof tiles and appeared in a reasonable condition. Apart from the external roof tiles (which provides the main rainwater barrier), roofing felt would offer an extra weather barrier in case of blow-offs or water penetration through the roofing or flashing. Its absence would lead to potential leakage into the roof void. There was no obvious sign of rainwater ingress through the external roof coverings at the time of our inspection, although our inspection was limited by visibility from the loft hatch location only for safety reasons. Also, we did identify some evidence rainwater penetration to ceiling surfaces below, which suggests some rainwater ingress into the roof void, although it was not possible for us to safely navigate around the entire roof void space due to lack of boarding and lighting. Further safe examination should be undertaken to confirm the roof coverings continue to provide adequate weather protection and that no breaches are present.

A further issue to note is that Building Regulations require a permanent and passive free flow of air is provided to the roof void to prevent the onset of defects developing. Dry rot for example can occur and attack the structural timber if moisture in the roof space (lack of ventilation, water penetration / leakage etc) is combined with other conditions (e.g. humid temperatures).

Dry rot typically occurs in timber where the moisture content exceeds 20%. This moisture can be exacerbated by the lack of a free passage of air into the roof void area, which is evident in this case (i.e. no roof ventilation tiles are present).

Dry rot affects mostly softwoods and often causes extensive damage. Remedial works can be very expensive. Dry rot is sensitive to high temperatures (over 25°C) and drying, and is therefore rarely found on exposed timbers or in situations where fluctuating conditions are likely (such as well ventilated roof spaces or sub-floors). It is able to grow through bricks and mortar but requires timber to feed on. Strands can transport moisture from damp areas, allowing the spread of fungus to dry wood in unventilated conditions. The fungal characteristics are silk white sheets or cotton wool-like mycelium, white to grey strands (sometimes as thick as a pencil), yellow or red fruiting body with white or grey edges and profuse reddish brown dust spores. Dry rot can cause widespread structural damage.

Decayed wood has a dull brown colour, typically with deep cracks across the grain. It is light in weight, crumbles between the fingers and there is no skin of sound wood.

We noted the absence of a passive ventilation route into the roof profile. Passive ventilation is required to ensure moisture and condensation that builds up within the roof void has an opportunity to escape (otherwise it would attach itself to the structural timber frameworks and create defects in the form of dry rot) - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Front Room 1, Rear Room, Male Toilets and Void Above Hall (First Floor)

No deflection or distortion to the ceiling finishes were evident to the first floor rooms. This would suggest the horizontal timber roof beams above (which provide support to the ceiling finishes) are satisfactory from a structural perspective, continue to perform as intended and that sagging / deflection is not a concern. N.B. a number of rooms have false ceilings present and so further inspection of the void above was conducted where possible. We noted ceiling cracks to the rear room – see photos 102-112 below. These cracks are expected to be caused by minor flexure of the ceiling joists due to loading of the attic space. The cracking is considered not to be of structural concern and can be remediated through general maintenance and decoration - N.B. we recommend that all internal ceiling finishes are replaced - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.



Photo 95 – Rear Room



Photo 96 – Front Room 1



Photo 97 – Void Above Front Room 1



Photo 98 – Male Toilets



Photo 99 – Void Above Male Toilets



Photo 100 – Void Above Hall



Photo 101 – Main Staircase

Overall, the internal walls remain in a satisfactory condition from a load-bearing structural perspective, i.e. the walls maintain their ability to support and transfer building loads through the structure down to foundation level. The vertical and horizontal alignments of the walls are adequate, with no sign of structural cracking, spalling of the plaster finish which would otherwise suggest the potential for structural defects.

Internal cracking (damage category 1 to 2) to plaster finishes were noted to the rear room, front room 1, staircase and male toilets – see photos 113-121, 124, 126, 128, 130 and 132-138 below. Further cracking (damage category 1 to 2) was noted to the wall plaster above the external wall archways in the front room 1 – see photos 127, 129 and 131. Also, cracking (damage category 1 to 2) was noted around the archway infill in the rear room and front room 1 – see photos 122 and 125 below. These cracks are low grade in nature and expected to be confined to the non-structural plaster finishes only. There is no obvious loss of structural support or failure of the wall panel at these locations. Notwithstanding this, the internal wall finishes should be removed to check the integrity of the load-bearing wall face beneath and to conduct the necessary repairs where necessary- Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Areas of detached plaster were noted to the rear room, front room 1 and staircase – see photos 114, 188, 120, 123-124 and 135 below. These areas of detached plaster are expected to be caused by penetrating damp to the walls in these areas. Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Overall, the condition of the wall and ceiling finishes are considered substandard and should be replaced throughout.

Inspection of the first floors did not indicate any problematic sagging or deflection of floor boards (and by default the supporting timber beams and other frameworks beneath). The first floor condition is satisfactory and considered to be sufficient to support vertical floor loads and also act as a lateral tie support to the external and internal walls – Condition Rating **NI** N.B. We were unable to confirm the actual condition of the supporting timber beams (due to the non-intrusive nature of the survey) so the presence of woodworm, rot etc could not be confirmed. On the basis that no obvious deformation of the floor surface was evident, then we consider the structural timber beam frameworks to remain adequate.



Photo 102 – Ceiling Cracking (Rear Room)



Photo 103 – Ceiling Cracking (Rear Room)



Photo 104 – Ceiling Cracking (Rear Room)



Photo 105 – Ceiling Cracking (Rear Room)



Photo 106 – Ceiling Cracking (Rear Room)



Photo 107 – Ceiling Cracking (Rear Room)



Photo 108 – Ceiling Cracking (Rear Room)



Photo 109 – Ceiling Cracking (Rear Room)



Photo 110 – Ceiling Cracking (Rear Room)



Photo 111 – Ceiling Cracking (Rear Room)



Photo 112 – Ceiling Cracking (Rear Room)



Photo 113 – Wall Plaster Crack (Rear Room)



Photo 114 – Wall Plaster Crack (Rear Room)



Photo 115 – Wall Plaster Crack (Rear Room)



Photo 116 – Wall Plaster Crack (Rear Room)



Photo 117 – Wall Plaster Crack (Rear Room)



Photo 118 – Detached Wall Plaster (Rear Room)



Photo 119 – Wall Plaster Crack (Rear Room)



Photo 120 – Wall Plaster Crack (Rear Room)



Photo 121 – Wall Plaster Crack (Rear Room)



Photo 122 – Cracking Around Archway Infill (Rear Room)



Photo 123 – Detached Wall Plaster (Rear Room)



Photo 124 – Wall Plaster Crack (Front Room 1)



Photo 125 – Cracking Around and Above Archway Infill (Front Room 1)



Photo 126 – Wall Plaster Crack (Front Room 1)



Photo 127 – Wall Crack Above Archway (Front Room 1)



Photo 128 – Wall Plaster Crack (Front Room 1)

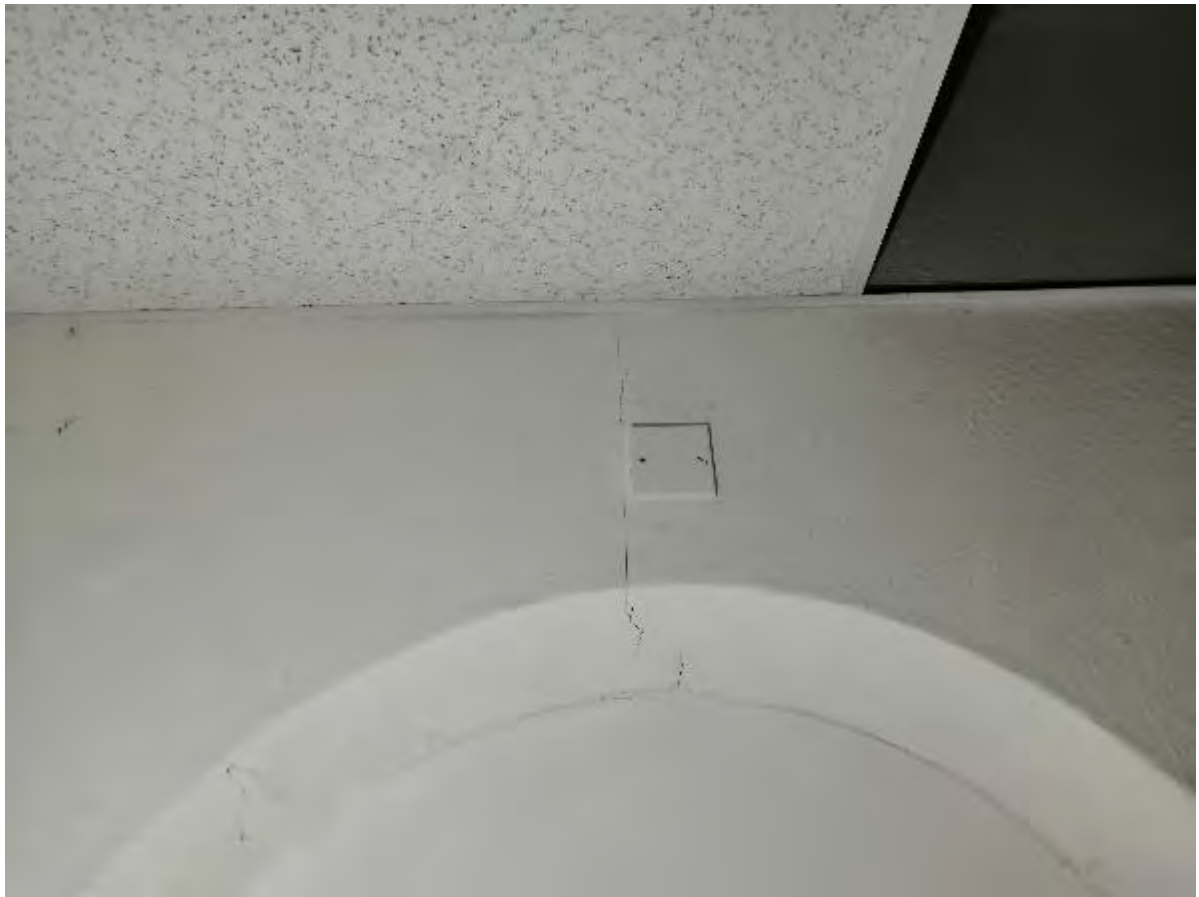


Photo 129 – Wall Crack Above Archway (Front Room 1)



Photo 130 – Wall Plaster Crack (Front Room 1)



Photo 131 – Wall Crack Above Archway (Front Room 1)



Photo 132 – Wall Plaster Crack (Front Room 1)



Photo 133 – Wall Plaster Crack (Front Room 1)



Photo 134 – Wall Plaster Crack (Staircase)



Photo 135 – Wall Plaster Crack (Staircase)



Photo 136 – Wall Plaster Crack (Male Toilet)

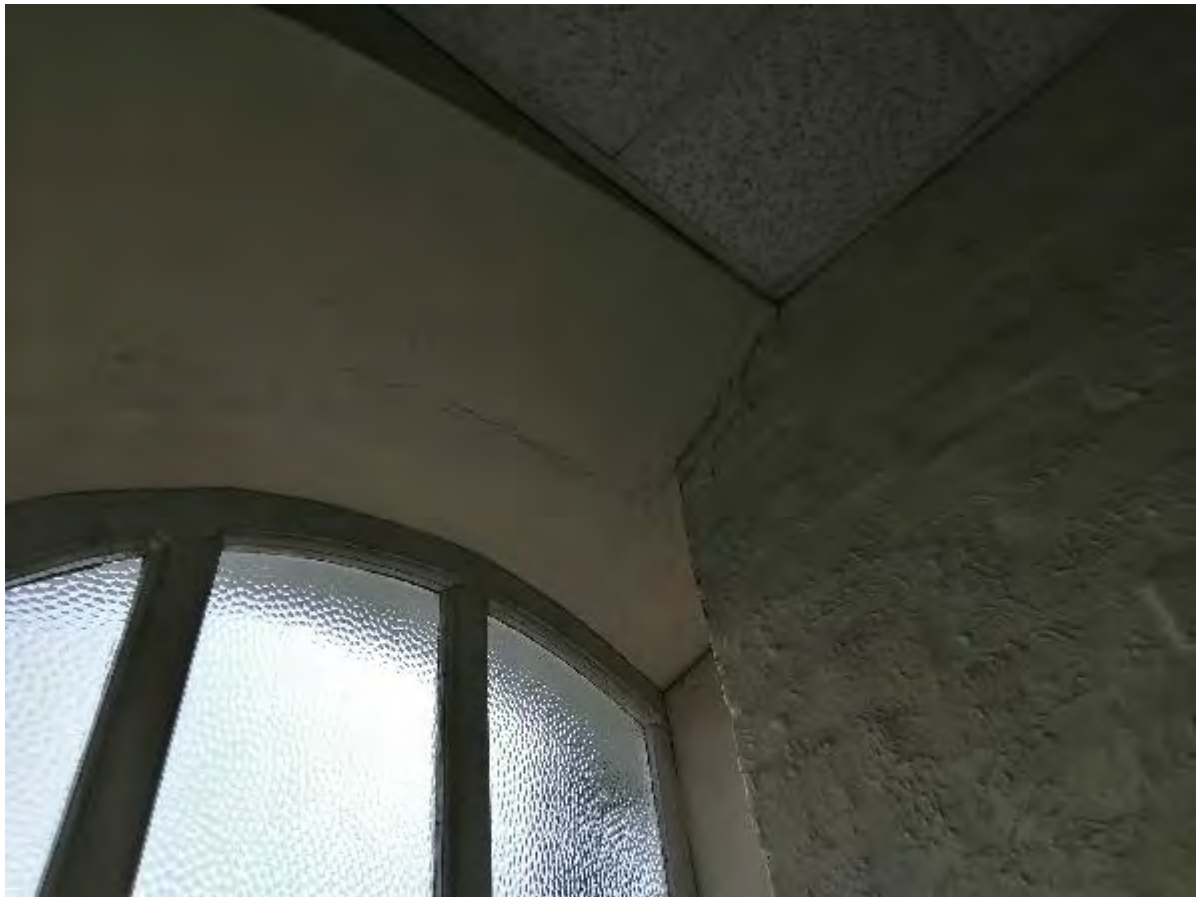


Photo 137 – Wall Plaster Crack (Male Toilet)



Photo 138 – Wall Plaster Crack (Male Toilet)

Window condition* and alignment is satisfactory (i.e. open / close without catching), which indicates no movement of the walls or the foundations which support them. Trickle vents (or other means of ventilation, i.e. by having windows with a secondary lock that allows the windows to ventilate) should be provided to enable the free flow of air into the property. The windows had no trickle vents present in the frameworks so are unsatisfactory to provide passive ventilation into the property – Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

** Window condition is only checked to support our assessment on whether any movement (settlement / heave) of the property has occurred, i.e. any consequential damage to the frames that prevents them being opened / closed, and whether they provide an adequate means of internal ventilation. Our report does not address the actual condition of the windows in terms of their acoustic and / or thermal performance. Any defects to the windows that have not been caused by structural movement of the property or are not associated with ventilation are out of scope of this report.*

An inspection was undertaken to confirm the presence of damp in the property. Penetrating damp was noted to the external walls of the rear room, front room 1, staircase and male toilets – see photos 143-144, 147-148, 150, 152, 154, 156-163, 165 and 167-168 below. These areas of penetrating damp are expected to be caused by cracking of the external render and stonework mortar joints / pointing. Also, the type of render being cementitious based entraps moisture and prevents the solid wall from suitably ‘breathing’ - Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

Penetrating damp was noted to the ceiling of the rear room – see photo 139 below. Due to the limited access to the roof void we were unable to confirm the cause of the penetrating damp at this location. It is recommended that further investigation is undertaken within the roof void (following safe access provisions) to confirm the cause of this penetrating damp and undertake suitable remedial works where necessary. Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

Penetrating damp was noted to the internal wall between the original building and front extension within the rear room – see photos 140-142 below. It is suspected that the damp is caused by issues / defects to the roof valley between the original and front roof profile. However, due to the limited access to the roof void and limited visibility of the external roof profile at this section of roof we were unable to confirm the cause of the penetrating damp at this location. It is recommended that further investigation is undertaken within the roof void and at high level to the roof valley to confirm the cause of this penetrating damp and undertake suitable remedial works where necessary. Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

Penetrating damp was noted to the window of the front room 1 – see photo 164 below. It is expected that this penetrating damp is caused by rot to the timber window frame. Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

It shall be recognised that solid wall construction as adopted throughout the property offers less protection against penetrating damp when compared to cavity wall construction used in the extension. Damp can be more prevalent during winter months and can be exacerbated by cracked or defective external render and mortar joints / pointing. Damage to internal wall surfaces most commonly occur due to inadequate passive ventilation into the habitable rooms (i.e. no trickle vents or secondary locks in the window frames), where moisture and condensation is not given an opportunity to escape and ends up damaging the internal wall finishes over time (i.e. condensation damage). Condensation damp was noted in the rear room, front room 1 and male toilets – see photos 145-146, 149, 151, 153, 155 and 166 below.

To minimize and control the build up of moisture internally (and thus damage to internal wall surfaces), a passive means of ventilation is necessary as discussed above regarding trickle vents in the window frameworks - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.



Photo 139 – Penetrating Damp (Rear Room)



Photo 140 – Penetrating Damp (Rear Room)



Photo 141 – Penetrating Damp (Rear Room)



Photo 142 – Penetrating Damp (Rear Room)



Photo 143 – Penetrating Damp (Rear Room)



Photo 144 – Penetrating Damp (Rear Room)



Photo 145 – Condensation Damp (Rear Room)



Photo 146 – Condensation Damp (Rear Room)



Photo 147 – Penetrating Damp (Rear Room)



Photo 148 – Penetrating Damp (Rear Room)



Photo 149 – Condensation Damp (Rear Room)



Photo 150 – Penetrating Damp (Rear Room)



Photo 151 – Condensation Damp (Rear Room)



Photo 152 – Penetrating Damp (Rear Room)



Photo 153 – Condensation Damp (Rear Room)



Photo 154 – Penetrating Damp (Front Room 1)



Photo 155 – Condensation Damp (Front Room 1)



Photo 156 – Penetrating Damp (Front Room 1)



Photo 157 – Penetrating Damp (Front Room 1)



Photo 158 – Penetrating Damp (Front Room 1)



Photo 159 – Penetrating Damp (Front Room 1)



Photo 160 – Penetrating Damp (Front Room 1)



Photo 161 – Penetrating Damp (Front Room 1)



Photo 162 – Penetrating Damp (Front Room 1)



Photo 163 – Penetrating Damp (Front Room 1)



Photo 164 – Penetrating Damp (Front Room 1)



Photo 165 – Penetrating Damp (Staircase)



Photo 166 – Condensation Damp (Male Toilets)



Photo 167 – Penetrating Damp (Male Toilets)



Photo 168 – Penetrating Damp (Male Toilets)

Entrance, Female Toilets, Hall, Front Room 2, Side Room 1, 2, Kitchen, Utility Room 1, 2, Storage Room and Fire Exit Room (Ground Floor)

No deflection or distortion to the ceiling finishes were evident to any of the ground floor rooms. This would suggest the timber first floor beams above (which provide support to the ceiling) are satisfactory from a structural perspective, continue to perform as intended and that sagging / deflection is not a concern. We noted ceiling cracks to the hall and side room 1 – see photos 191-192 and 203-205 below. These cracks are expected to be caused by minor flexure of the first floor timber joists. The cracking is considered not to be of structural concern and can be remediated through general maintenance and decoration. N.B. we recommend that all internal ceiling finishes are replaced - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

During the survey, rot was noted to the timber purlins in the fire exit room – see photos 219-223 below. This rot is expected to be caused by the penetrating damp through the roof sheeting material. Due to the purlins condition it is recommended that the purlins are removed and replaced. Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.



Photo 169 – Entrance



Photo 170 – Corridor 1



Photo 171 – Under Staircase



Photo 172 – Female Toilets



Photo 173 – Front Room 2



Photo 174 – Void Above Front Room

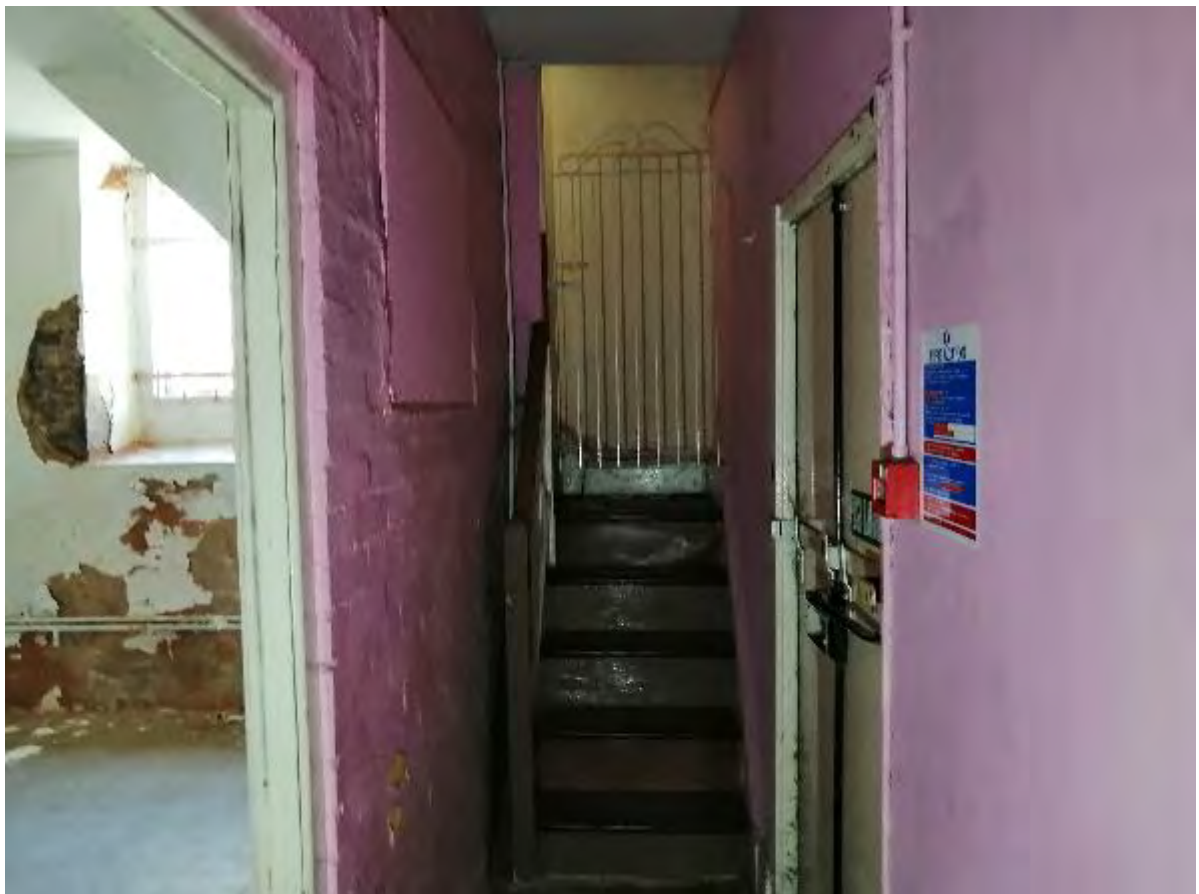


Photo 175 – Corridor 2



Photo 176 – Side Room 1



Photo 177 – Side Room 2



Photo 178 – Kitchen



Photo 179 – Utility Room 1



Photo 180 – Utility Room 2



Photo 181 – Hall



Photo 182 – Corridor 3



Photo 183 – Storage Room



Photo 184 – Fire Exit Room

N.B. Studwork boarding to the walls of the hall, entrance, female toilets and front room 2 on the ground floor prevented inspection of the wall finishes in these rooms.

Overall, internal walls remain in a satisfactory condition from a load-bearing structural perspective, i.e. the walls maintain their ability to support and transfer building loads through the structure down to foundation level. The vertical and horizontal alignment of the walls are adequate, with no sign of structural cracking, spalling of the plaster finish which would otherwise suggest the potential for structural defects. Internal cracking (damage category 1-2) to plaster finishes were noted to corridor 1, 2, female toilets, front room 2, side room 1, utility room 1 and fire exit room – see photos 185-186, 188-190, 193-196, 202 and 214-218. These cracks are low grade in nature and expected to be confined to the non-structural plaster finishes only. There is no loss of structural support or failure of the wall panel at these locations. Notwithstanding this, the internal wall finishes should be removed to check the integrity of the load-bearing wall face beneath and to conduct the necessary repairs where necessary- Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Overall, the condition of the wall and ceiling finishes are considered substandard and should be replaced throughout.

Areas of detached plaster were noted to the side room 1 – see photos 195-196 and 198 below. These areas of detached plaster are expected to be part caused by penetrating damp to the walls in these areas. Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Stepped cracking (damage category 1) to the internal wall of the kitchen and utility room 2 – see photos 200-201 below. It was noted during the survey that the crack is mirrored on both sides of the wall implying that the crack has penetrated the full depth of the wall construction.

Local repairs to masonry and joints will be needed - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Cracking (damage category 1) was noted to the studwork wall of the hall – see photo 206 below. This crack is not considered to be of structural concern and can be remediated through general maintenance and decoration.

Stepped cracking (damage category 2) was noted to the brickwork mortar of the in the fire exit room – see photos 212-213 below. During the survey it was noted that these cracks are mirrored on the external face of the wall suggesting that the cracks have penetrated the full depth of the wall construction. These cracks are expected to have been caused by the significant vegetation growth to the wall. Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

During the survey, no lintel was noted to the doorway between side room 1 and side room 2 – see photo 197 below. The absence of a lintel for the doorway opening means that the brickwork is not held in place and is unsupported. It is recommended that a lintel is installed in this doorway to support the masonry above (N.B the remnants of a timber lintel were visible but is substandard to support the masonry above) - Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

During the survey it was noted that the staircase from corridor 2 to front room 1 was sloping – see photo 199 below. It is suspected that the timber members of the staircases are rotten due to penetrating damp through the right wall elevation. It is recommended that the staircase is not used in its current condition. Further intrusive investigation through the removal of boarding and timber steps should be undertaken to assess the condition and undertake suitable repairs to the underlying timber members. These repairs may require the removal and replacement of the staircase in its entirety. Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

Vegetation growth was noted the internal of the fire exit room – see photos 210-211 below. It is recommended that all the vegetation is removed to prevent further damage to the property. Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Rot was noted to the base of the doorway frame to corridor 3 and the storage room – see photos 207-208 below. This rot is expected to be caused by the penetrating damp through the roof sheeting material of the rear extension. The timber doorway should be removed and replaced. There is surface damp to the concrete slab (as a consequence of the defective roof coverings) and is discussed further below - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

No indication of significant movement (through subsidence, settlement or heave), deflection, cracking or other defects to the concrete ground bearing slab. However, it was noted during the survey that the entrance room floor has a slope towards the front wall elevation and so remedial works will be necessary - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

Also cracking (damage category 1) was noted to the concrete floor of front room 2 and the storage room – see photos 187 and 209 below. It is expected that minor compaction of the material below the concrete slab has occurred (gaps were noted to the slab periphery) and subsequently minor settlement of the concrete floor slab which has caused the cracking and so remedial works will be necessary - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.



Photo 185 – Wall Plaster Crack (Corridor 1)



Photo 186 – Wall Plaster Crack (Female Toilets)



Photo 187 – Concrete Floor Cracking (Front Room)



Photo 188 – Wall Plaster Cracking to Archway Behind Stud Wall (Front Room)



Photo 189 – Wall Plaster Cracking (Corridor 2)



Photo 190 – Wall Plaster Cracking (Corridor 2)



Photo 191 – Ceiling Cracking (Side Room 1)



Photo 192 – Ceiling Cracking (Side Room 1)



Photo 193 – Wall Plaster Cracking (Side Room 1)



Photo 194 – Wall Plaster Cracking (Side Room 1)



Photo 195 – Wall Plaster Cracking and Detached Plaster (Side Room 1)



Photo 196 – Wall Plaster Cracking and Detached Plaster (Side Room 1)



Photo 197 – No Doorway Lintel (Side Room 1)



Photo 198 –Detached Plaster (Side Room 1)



Photo 199 – Slope to Staircase (Side Room 1)



Photo 200 – Stepped Internal Wall Crack (Kitchen)



Photo 201 – Stepped Internal Wall Crack (Utility Room 2)



Photo 202 – Wall Plaster Crack (Utility Room 1)



Photo 203 – Ceiling Cracking (Hall)



Photo 204 – Ceiling Cracking (Hall)



Photo 205 – Ceiling Cracking (Hall)



Photo 206 – Cracking to Studwork Wall (Hall)



Photo 207 – Rot to Doorway Timber (Corridor 3)



Photo 208 – Rot to Doorway Timber (Storage Room)



Photo 209 – Cracking to Concrete Floor (Storage Room)



Photo 210 – Internal Vegetation Growth (Fire Exit Room)



Photo 211 – Internal Vegetation Growth (Fire Exit Room)



Photo 212 – Cracked and Displaced Masonry (Fire Exit Room)



Photo 213 – Cracked Masonry (Fire Exit Room)



Photo 214 – Wall Plaster Crack (Fire Exit Room)



Photo 215 – Wall Plaster Crack (Fire Exit Room)



Photo 216 – Wall Plaster Crack (Fire Exit Room)



Photo 217 – Wall Plaster Crack (Fire Exit Room)



Photo 218 – Wall Plaster Crack (Fire Exit Room)



Photo 219 – Rot to Roof Purlin (Fire Exit Room)



Photo 220 – Rot to Roof Purlin (Fire Exit Room)



Photo 221 – Rot to Roof Purlin (Fire Exit Room)



Photo 222 – Rot to Roof Purlin (Fire Exit Room)



Photo 223 – Rot to Roof Purlin (Fire Exit Room)

Window condition* and alignment is satisfactory (i.e. open / close without catching), which indicates no movement of the walls or the foundations which support them. Trickle vents (or other means of ventilation, i.e. by having windows with a secondary lock that allows the windows to ventilate) should be provided to enable the free flow of air into the property. The windows had no trickle vents present in the frameworks so are unsatisfactory to provide passive ventilation into the property – Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.

** Window condition is only checked to support our assessment on whether any movement (settlement / heave) of the property has occurred, i.e. any consequential damage to the frames that prevents them being opened / closed, and whether they provide an adequate means of internal ventilation. Our report does not address the actual condition of the windows in terms of their acoustic and / or thermal performance. Any defects to the windows that have not been caused by structural movement of the property or are not associated with ventilation are out of scope of this report.*

An inspection was undertaken to confirm the presence of damp in the property. Penetrating damp was noted to the external walls under the stairs, corridor 2, side room 1, the kitchen, utility room 1 and the hall – see photos 224, 226-237 and 241-242 below. These areas of penetrating damp are expected to be caused by cracking of the external render and stonework mortar joints / pointing. Also, the type of render being cementitious based entraps moisture and prevents the solid wall from suitably ‘breathing’ - Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

Penetrating damp was noted to the rear wall of the hall and to corridor 3 and the fire exit room – see photos 238-239 and 243-244 below. These areas of penetrating damp are expected to be

caused by the condition of the roof of the rear extension - Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

Rising damp was noted to the wall of corridor 1 – see photo 225 below. Condition Rating **3** See Section 7.0 Recommendations for guidance on repair works required.

It shall be recognised that solid wall construction as adopted in the original property offers less protection against penetrating damp when compared to cavity wall construction adopted in the extension. Damp can be more prevalent during winter months and can be exacerbated by cracked or defective external render and mortar joints / pointing. Damage to internal wall surfaces most commonly occur due to inadequate passive ventilation into the habitable rooms (i.e. no trickle vents or secondary locks in the window frames), where moisture and condensation is not given an opportunity to escape and ends up damaging the internal wall finishes over time (i.e. condensation damage). Condensation damp was noted to the ceiling in the hall – see photo 240 below. To minimize and control the build up of moisture internally (and thus damage to internal wall surfaces), a passive means of ventilation is necessary as discussed above regarding trickle vents in the window frameworks - Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.



Photo 224 – Penetrating Damp (Corridor 1)



Photo 225 – Rising Damp (Corridor 1)



Photo 226 – Rising Damp (Under Staircase)



Photo 227 – Penetrating Damp (Corridor 2)



Photo 228 – Penetrating Damp (Corridor 2)



Photo 229 – Penetrating Damp (Side Room 1)



Photo 230 – Penetrating Damp (Side Room 1)



Photo 231 – Penetrating Damp (Kitchen)



Photo 232 – Penetrating Damp (Utility Room 1)



Photo 233 – Penetrating Damp (Utility Room 1)



Photo 234 – Penetrating Damp (Utility Room 1)



Photo 235 – Penetrating Damp (Utility Room 1)



Photo 236 – Penetrating Damp (Utility Room 1)



Photo 237 – Penetrating Damp (Utility Room 1)



Photo 238 – Penetrating Damp (Hall)



Photo 239 – Penetrating Damp (Hall)



Photo 240 – Condensation Damp (Hall)



Photo 241 – Penetrating Damp (Hall)



Photo 242 – Penetrating Damp (Hall)



Photo 243 – Penetrating Damp (Corridor 3)



Photo 244 – Penetrating Damp (Fire Exit Room)

Additional Observations

Cracking (damage category 1 and 2) was noted to the boundary wall to both sides of the gate – see photo 245 below. It was noted during the survey that the cracks were mirrored on both sides of the wall implying the cracking had penetrated through the full depth of the wall construction. These cracks do not pose a structural concern for the main property building and remediation works are expected to require the demolition and reconstruction of the boundary wall at this location.

A defective drainage channel and lack of drainage gully to the right wall elevation were noted during the survey – see photos 246-247 below. Additionally, the rainwater down pipes to the front wall elevation discharge to the pavement without a method for removal of water away from the base of the wall – see photos 248-249 below. These defects can allow water to pond and build up against the property increasing the risk of rising and penetrating damp to the internal ground floor areas. It is recommended that the drainage arrangement to the external of the property is rationalised to remove water away from the property wall elevations. Condition Rating **2** See Section 7.0 Recommendations for guidance on repair works required.



Photo 245 – Cracking to Wall Supporting Entrance Gate



Photo 246 – Defective Drainage Chanel (Right Wall Elevation)



Photo 247 – No Drainage Gully (Right Wall Elevation)



Photo 248 – No Drainage to Remove Water from Wall (Front Wall Elevation)



Photo 249 – No Drainage to Remove Water from Wall (Front Wall Elevation)

SECTION 6

CONCLUSIONS

Having completed a structural survey to Moose Hall, Castle Street in Neath and following inspection / assessment of the roof profile and structural timber frameworks, load-bearing wall condition and alignment, first and ground floors, foundation performance and assessment of damp in the property we conclude the following (N.B. based on a non-intrusive inspection) :

N.B. Prior to undertaking any repair works the owners should check the Grade 2 listed status (e.g. from a planning perspective and also conservation) and ensure the repair works align with these requirements.

The Condition Rating **3** defects that will require remedial works are as follows:

- Penetrating damp was noted to the external walls of the rear room, front room 1, staircase and male toilets – see photos 143-144, 147-148, 150, 152, 154, 156-163, 165 and 167-168. These areas of penetrating damp are expected to be caused by cracking of the external render and stonework mortar joints / pointing. Also, the type of render being cementitious based entraps moisture and prevents the solid wall from suitably ‘breathing’.
- Penetrating damp was noted to the ceiling of the rear room – see photo 139. Due to the limited access to the roof void we were unable to confirm the cause of the penetrating damp at this location.
- Penetrating damp was noted to the internal wall between the original building and front extension within the rear room – see photos 140-142. It is suspected that the damp is caused by issues / defects to the roof valley between the original and front roof profile. However, due to the limited access to the roof void and limited visibility of the external roof profile at this section of roof we were unable to confirm the cause of the penetrating damp at this location.
- Penetrating damp was noted to the window of the front room 1 – see photo 164. It is expected that this penetrating damp is caused by rot to the timber window frame
- During the survey, rot was noted to the timber purlins in the fire exit room – see photos 219-223. This rot is expected to be caused by the penetrating damp through the roof sheeting material. Due to the purlins condition it is recommended that the purlins are removed and replaced.
- During the survey, no lintel was noted to the doorway between side room 1 and side room 2 – see photo 197. The absence of a lintel for the doorway opening means that the brickwork is not held in place and is unsupported. It is recommended that a lintel is installed in this doorway to support the masonry above (N.B the remnants of a timber lintel were visible but is substandard to support the masonry above).
- During the survey it was noted that the staircase from corridor 2 to front room 1 was sloping. It is expected that the timber members of the staircases are rotten due to penetrating damp through the right wall elevation.
- A number of holes and corrosion was noted to the metal roof sheeting of the rear extension.
- Penetrating damp was noted to the external walls under the stairs, corridor 2, side room 1, the kitchen, utility room 1 and the hall – see photos 224, 226-237 and 241-242.

- Penetrating damp was noted to the rear wall of the hall and to corridor 3 and the fire exit room – see photos 238-239 and 243-244. These areas of penetrating damp are expected to be caused by the condition of the roof of the rear extension.
- Rising damp was noted to the wall of corridor 1 – see photo 225.

The Condition Rating **2** defects that will require remedial works to prevent further more problematic degradation occurring are as follows:

- Trickle vents were absent from the window frames so there is an inadequate means of providing passive ventilation to evacuate internal condensation and moisture.
- We noted the absence of a passive ventilation route into the roof profile. Passive ventilation is required to ensure moisture and condensation that builds up within the roof void has an opportunity to escape (otherwise it would attach itself to the structural timber frameworks and create defects in the form of dry rot)
- A number of damaged tiles were noted to the front roof profile.
- Significant vegetation growth was noted to the rear extension roof and the rear roof profile, rear, left side and right side wall elevations and internally in the fire exit room.
- The timber fascia board to the property were noted to be weathered and will require repair or renewal in areas of rot damage.
- Poor guttering to the roof line was evident with multiple missing gutter sections and defective sections to the rear roof profile – see examples in photos 11-14, which can lead to rainwater discharging down the face of the wall (potential damp issues).
- Cracking (damage category 1 and 2) was noted to the render of the left side wall elevation and to the mortar of the front wall elevation. It is expected that these cracks are caused by some minor localised wall panel movements. No obvious loss of structural support is evident.
- Our inspection of the external walls confirmed shrinkage cracking (damage category 1 to 2) to the left and right wall elevation.
- Render cracking (damage category 1 to 2) was noted around an infill of an original opening.
- Render cracking (damage category 1 to 2) was noted between the original property and front extension.
- An exposed edge was noted to the render of the left wall elevation.
- The tap tests confirmed areas of detached render to the left and right wall elevations. Due to the condition of the external render it is recommended that the render to the property is removed in its entirety and replaced.
- Stepped cracking (damage category 2) was noted to the brickwork mortar of the left wall elevation of the rear extension. During the survey it was noted that these cracks are mirrored on the internal face of the wall suggesting that the cracks have penetrated the full depth of the wall construction.

- Rotten timber was noted to the doorway lintel to the left wall elevation of the rear extension.
- Rotten timber was noted to the window frames of the left wall elevation and to the door frame on the front wall elevation. Corrosion as noted to the metal window frames of the right wall elevation.
- Cracking (damage category 1 to 2) and weathering was noted to the mortar of the stonework to the front wall elevation. The cracking noted above the archways are expected to be caused by minor movement within the window arches below caused by weathering of the archway mortar. Cracking (damage category 1) was noted to the wall plaster above the external wall archways in the front room 1.
- Cracking (damage category 1 to 2) and gaps in the stonework mortar were noted around the timber window of the front wall elevation.
- The majority of the timber frameworks have water markings / apparent surface rot across their surface areas. We'd recommend that the roof timber frameworks are suitably treated to negate any further deterioration.
- We noted ceiling cracks to the rear room – see photos 102-112, and also cracks to the hall and side room 1 – see photos 191-192 and 203-205. N.B. we recommend that all internal ceiling finishes are replaced.
- Internal cracking (damage category 1 to 2) to plaster finishes were noted to the rear room, front room 1, staircase and male toilets – see photos 113-121, 124, 126, 128, 130 and 132-138. Further cracking (damage category 1 to 2) was noted to the wall plaster above the external wall archways in the front room 1 – see photos 127, 129 and 131. Also, cracking (damage category 1 to 2) was noted around the archway infill in the rear room and front room 1 – see photos 122 and 125. Further Internal cracking (damage category 1-2) to plaster finishes were noted to corridor 1, 2, female toilets, front room 2, side room 1, utility room 1 and fire exit room – see photos 185-186, 188-190, 193-196, 202 and 214-218. The internal wall finishes should be removed to check the integrity of the load-bearing wall face beneath and to conduct the necessary repairs where necessary
- Areas of detached plaster were noted to the rear room, front room 1, staircase and side room 1.
- Stepped cracking (damage category 1 to 2) to the internal wall of the kitchen and utility room 2. It was noted during the survey that the crack is mirrored on both sides of the wall implying that the crack has penetrated the full depth of the wall construction.
- Stepped cracking (damage category 2) was noted to the brickwork mortar of the in the fire exit room – see photos 212-213. During the survey it was noted that these cracks are mirrored on the external face of the wall suggesting that the cracks have penetrated the full depth of the wall construction. These cracks are expected to have been caused by the significant vegetation growth to the wall
- Condensation damp was noted in the rear room, front room 1 and male toilets and to the ceiling in the hall – see photo 240 – see photos 145-146, 149, 151, 153, 155, 166 and 240.

- Vegetation growth was noted the internal of the fire exit room – see photos 210-211.
- Rot was noted to the base of the doorway frame to corridor 3 and the storage room – see photos 207-208.
- No indication of significant movement (through subsidence, settlement or heave), deflection, cracking or other defects to the concrete ground bearing slab. However, it was noted during the survey that the entrance room floor has a slope towards the front wall elevation and so remedial works will be necessary.
- Also cracking (damage category 1) was noted to the concrete floor of front room 2 and the storage room – see photos 187 and 209. It is expected that minor compaction of the material below the concrete slab has occurred (gaps were noted to the slab periphery) and subsequently minor settlement of the concrete floor slab which has caused the cracking and so remedial works will be necessary
- A defective drainage channel and lack of drainage gully to the right wall elevation were noted during the survey. Additionally, the rainwater down pipes to the front wall elevation discharge to the pavement without a method for removal of water away from the base of the wall. These defects can allow water to pond and build up against the property increasing the risk of rising and penetrating damp to the internal ground floor areas.

SECTION 7

RECOMMENDATIONS

The Condition Rating **3** defects:

1). Penetrating damp was noted to the external walls of the rear room, front room 1, staircase and male toilets – see photos 143-144, 147-148, 150, 152, 154, 156-163, 165 and 167-168. These areas of penetrating damp are expected to be caused by cracking of the external render and stonework mortar joints / pointing. Also, the type of render being cementitious based entraps moisture and prevents the solid wall from suitably ‘breathing’.

Repairs to the stonework mortar joints shall be carried out, following removal of the extant render finishes. Also new render will be needed throughout and will need to utilise a lime based 2 coat render finish to ensure the solid walls are able to breathe and disperse internal moisture (thus preventing/ minimising the potential for damp migrating to the internal walls). All works should be in accordance with BS EN 13914 Design, preparation and application of external render and internal plastering.

2). Penetrating damp was noted to the ceiling of the rear room – see photo 139. Due to the limited access to the roof void we were unable to confirm the cause of the penetrating damp at this location.

It is recommended that further investigation is undertaken within the roof void (following safe access provisions) to confirm the cause of this penetrating damp and undertake suitable remedial works where necessary.

3). Penetrating damp was noted to the internal wall between the original building and front extension within the rear room – see photos 140-142. It is suspected that the damp is caused by issues / defects to the roof valley between the original and front roof profile. However, due to the limited access to the roof void and limited visibility of the external roof profile at this section of roof we were unable to confirm the cause of the penetrating damp at this location.

It is recommended that further investigation is undertaken within the roof void and at high level to the roof valley to confirm the cause of this penetrating damp and undertake suitable remedial works where necessary.

4). Penetrating damp was noted to the window of the front room 1 – see photo 164 below. It is expected that this penetrating damp is caused by rot to the timber window frame.

The window frame shall be replaced, a new DPC installed around the window opening and appropriately sealed to ensure weather-tightness. Considering the condition of the window and door frames overall, one may wish to replace throughout.

5). During the survey, rot was noted to the timber purlins in the fire exit room – see photos 219-223. This rot is expected to be caused by the penetrating damp through the roof sheeting material.

The roof covering and timber purlins to the fire exit room should be removed and replaced in their entirety.

6). During the survey, no lintel was noted to the doorway between side room 1 and side room 2 – see photo 197. The absence of a lintel for the doorway opening means that the brickwork is not held in place and is unsupported. It is recommended that a lintel is installed in this

doorway to support the masonry above (N.B the remnants of a timber lintel were visible but is substandard to support the masonry above).

A doorway intel should be installed to support the masonry above.

7). During the survey it was noted that the staircase from corridor 2 to front room 1 was sloping. It is expected that the timber members of the staircases are rotten due to penetrating damp through the right wall elevation.

It is recommended that the staircase is not used in its current condition.

Further intrusive investigation through the removal of the boarding and timber steps should be undertaken to assess the condition of the underlying timber members and undertake suitable repairs which may include the removal and replacement of the staircase in its entirety.

8). A number of holes and corrosion was noted to the metal roof sheeting of the rear extension.

This will be covered in the removal and renewal of roof of the fire exit room as noted in recommendation 1 above.

9). Penetrating damp was noted to the external walls under the stairs, corridor 2, side room 1, the kitchen, utility room 1 and the hall – see photos 224, 226-237 and 241-242.

As per recommendation 1 above.

10). Penetrating damp was noted to the rear wall of the hall and to corridor 3 and the fire exit room – see photos 238-239 and 243-244.

These areas of penetrating damp are expected to be caused by the condition of the roof of the rear extension. This will be resolved following the works noted in recommendation 8 above.

11). Rising damp was noted to the wall of corridor 1 – see photo 225.

It is recommended that the plaster be fully removed and a pore blocking salt mixture or water repellent chemicals (i.e. gels, creams or pastes are injected into the base of the walls to prevent the penetrating damp. The appropriate solution can be provided by a damp proofing specialist who would carry out the work as the treatment needs to be installed by a professionally trained tradesman.

The Condition Rating **2** defects:

12). Trickle vents were absent from the window frames so there is an inadequate means of providing passive ventilation to evacuate internal condensation and moisture.

Trickle vents should ideally be installed to the window frames as currently there is a lack of a free air passage. This will help control the build-up of moisture / condensation / damp internally. Other factors that would help control internal condensation and minimise damage to internal wall and ceiling surfaces include:

- Reducing the moisture in the air (e.g. dry clothes outside, make sure tumble dryers are vented, avoid blocking radiator heat)

- ***Ventilation (ensure window vents are open if installed, use extract fans, open windows)***
- ***Heating (regulate heating, i.e. if under-heated then condensation increases)***

13). We noted the absence of a passive ventilation route into the roof profile. Passive ventilation is required to ensure moisture and condensation that builds up within the roof void has an opportunity to escape (otherwise it would attach itself to the structural timber frameworks and create defects in the form of dry rot)

In order to improve the natural ventilation to the roof voids and to prevent defects developing to the structural timber frameworks beneath, install ventilation tiles to the rear roof profile as per Figure 3.

14). A number of damaged tiles were noted to the front roof profile.

The damaged tiles throughout the roof profile require renewal in order to maintain the weather-tightness of the roof profile.

15). Significant vegetation growth was noted to the rear extension roof and the rear roof profile, rear, left side and right side wall elevations and internally in the fire exit room.

The vegetation growth will require removal through general maintenance to prevent further long term damage to the property.

16). The timber fascia board to the property were noted to be weathered and will require repair or renewal in areas of rot damage.

We'd recommend that fascia / soffit boards are replaced throughout.

17). Poor guttering to the roof line was evident with multiple missing gutter sections and defective sections to the rear roof profile – see examples in photos 11-14, which can lead to rainwater discharging down the face of the wall (potential damp issues).

New gutter sections will require installation to improve the roof drainage around the periphery of the roof profile.

18). Cracking (damage category 1 and 2) was noted to the render of the left side wall elevation and to the mortar of the front wall elevation. It is expected that these cracks are caused by some minor localised wall panel movements. No obvious loss of structural support is evident.

Wall finishes around the cracking shall be removed to expose the load-bearing wall surface in order to establish the extent of cracking in the walls. It is envisaged that some masonry units will need to be broken out and replaced, together with new mortar joints. If cracking is considered more severe, e.g. extending further into the width of the wall thickness, then local strengthening may be necessary by using 'Helifix' crack stitching steel ties installed along the mortar bedding joints along the crack (for cavity walls) or ties installed in a horizontal saw cut (for solid wall construction) – see detail below. All steel ties / joints will need to be infilled with a high strength epoxy resin to ensure full compatibility between masonry and steel ties.

All works shall take cognisance of Eurocode 6 'Structural use of Masonry' where necessary to ensure the correct masonry unit strength and mortar designation are adopted.

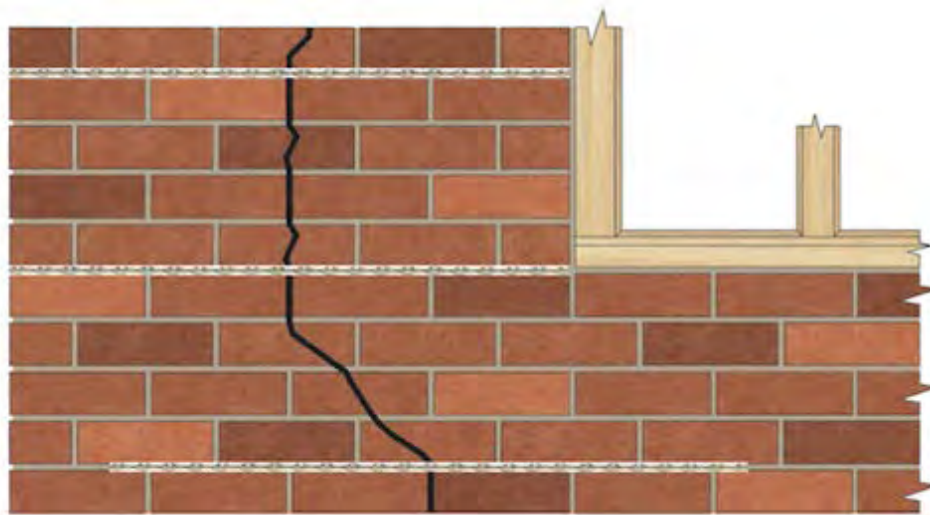


Figure 6 – Wall Elevation with ‘Helifix’ reinforcement rods installed in mortar / bed joints

19). Our inspection of the external walls confirmed shrinkage cracking (damage category 1 to 2) to the left and right wall elevation.

Due to the condition of the external render to the property it is recommended that the render is removed and replaced in its entirety to maintain weather tightness of the property. All works should be in accordance with BS EN 13914 Design, preparation and application of external render and internal plastering.

20). Render cracking (damage category 1 to 2) was noted around an infill of an original opening.

This will be covered in the renewal of the render as noted in recommendation 19 above.

21). Render cracking (damage category 1 to 2) was noted between the original property and front extension.

This will be covered in the renewal of the render as noted in recommendation 19 above.

22). An exposed edge was noted to the render of the left wall elevation.

This will be covered in the renewal of the render as noted in recommendation 19 above.

23). The tap tests confirmed areas of detached render to the left and right wall elevations. Due to the condition of the external render it is recommended that the render to the property is removed in its entirety and replaced.

This will be covered in the renewal of the render as noted in recommendation 19 above.

24). Stepped cracking (damage category 2) was noted to the brickwork mortar of the left wall elevation of the rear extension. During the survey it was noted that these cracks are mirrored

on the internal face of the wall suggesting that the cracks have penetrated the full depth of the wall construction.

Cracked and defective mortar shall be raked out and all loose and deleterious materials blown out of the joint. It is envisaged that some masonry units will need to be broken out and replaced. All works shall take cognisance of Eurocode 6 'Structural use of Masonry' where necessary to ensure the correct masonry unit strength and mortar designation are adopted.

This will be better controlled with the removal of the vegetation.

N.B. while it's apparent that some degree of movement has occurred, it's not possible to determine (from a single site visit) whether these cracks are 'active' or indeed historical (ongoing monitoring would be necessary over several months, which is outside the scope of this report). The repairs around the vicinity of the cracking shall be conducted as noted above and wall finishes made good. Any further crack developments shall be reported back to Structural Surveys UK for further assessment and further repairs may be required. This may include underpinning of the wall.

25). Rotten timber was noted to the doorway lintel to the left wall elevation of the rear extension.

The rotten timber should be removed and replaced with a precast concrete lintel.

26). Rotten timber was noted to the window frames of the left wall elevation and to the door frame on the front wall elevation. Corrosion as noted to the metal window frames of the right wall elevation.

It is recommended that the timber and metal window frames are removed and replaced with a new window frame unit.

27). Cracking (damage category 1 to 2) and weathering was noted to the mortar of the stonework to the front wall elevation. The cracking noted above the archways are expected to be caused by minor movement within the window arches below caused by weathering of the archway mortar. Cracking (damage category 1) was noted to the wall plaster above the external wall archways in the front room 1.

Cracked and defective mortar shall be raked out and all loose and deleterious materials blown out of the joint. A new mortar mix designation shall be applied in accordance with Eurocode 6 'Structural Use of Masonry'.

28). Cracking (damage category 1 to 2) and gaps in the stonework mortar were noted around the timber window of the front wall elevation.

As per recommendation 27.

29). The majority of the timber frameworks have water markings / apparent surface rot across their surface areas. We'd recommend that the roof timber frameworks are suitably treated to negate any further deterioration.

Dry Rot Treatment : Once you have identified the infected timbers, it is recommended that you cutback the timbers (if major rot is present) in-situ to at least 500mm beyond the last signs of fungal growth or hyphae strands. You will

*then need to remove all fruiting bodies and visible spores. Clean all wall areas to remove surface growth including hyphae, mycelium and fruiting bodies. A stiff brush can be used on the walls if required. You should replace the timber with pre-treated timber. All remaining sound timber should then be liberally treated with a **dual purpose dry rot treatment fluid**. These specially formulated fungicides will kill dry rot and stop re-infestations, preventing any further outbreaks of the fungus. You will also need to sterilise the masonry.*

***Wet Rot.** To solve issues with wet rot, it is important to first identify the source of moisture and stop the cause of the damp. Alternatively, you can isolate the timber from the damp source before treating the affected areas. In some extreme cases you will need to replace the affected timbers. However, in most cases you can stop wet rot by treating the timber with a fungicide. The treatment of wet rot involves applying a **fungicide** during the drying out period. Usually the fungicide comes as a concentrate and will need to be diluted. It can then be applied using a brush or a low pressure sprayer. These treatments will eradicate the wet rot, as long as the source of the water ingress has been stopped. Important note: When treating the area affected by wood rot, you should also treat the areas that are not yet affected. This will prevent future outbreaks of the decay.*

30). We noted ceiling cracks to the rear room – see photos 102-112, and also cracks to the hall and side room 1 – see photos 191-192 and 203-205.

We recommend that all internal ceiling finishes are replaced. All works should be in accordance with BS EN 13914 Design, preparation and application of external render and internal plastering.

31). Internal cracking (damage category 1 to 2) to plaster finishes were noted to the rear room, front room 1, staircase and male toilets – see photos 113-121, 124, 126, 128, 130 and 132-138. Further cracking (damage category 1 to 2) was noted to the wall plaster above the external wall archways in the front room 1 – see photos 127, 129 and 131. Also, cracking (damage category 1 to 2) was noted around the archway infill in the rear room and front room 1 – see photos 122 and 125. Further Internal cracking (damage category 1-2) to plaster finishes were noted to corridor 1, 2, female toilets, front room 2, side room 1, utility room 1 and fire exit room – see photos 185-186, 188-190, 193-196, 202 and 214-218.

The internal wall finishes should be removed to check the integrity of the load-bearing wall face beneath and to conduct the necessary repairs where necessary.

We recommend that all internal wall finishes are replaced. All works should be in accordance with BS EN 13914 Design, preparation and application of external render and internal plastering.

32). Areas of detached plaster were noted to the rear room, front room 1, staircase and side room 1.

This will be resolved following recommendation 31.

33). Stepped cracking (damage category 1 to 2) to the internal wall of the kitchen and utility room 2. It was noted during the survey that the crack is mirrored on both sides of the wall implying that the crack has penetrated the full depth of the wall construction.

The internal plasterwork and any external render should be removed to expose the load-bearing masonry wall surface in order to establish the extent of cracking in the

walls. It is envisaged that some masonry units will need to be broken out and replaced. All works shall take cognisance of Eurocode 6 'Structural use of Masonry' where necessary to ensure the correct masonry unit strength and mortar designation are adopted.

34). Stepped cracking (damage category 2) was noted to the brickwork mortar of the in the fire exit room – see photos 212-213. During the survey it was noted that these cracks are mirrored on the external face of the wall suggesting that the cracks have penetrated the full depth of the wall construction. These cracks are expected to have been caused by the significant vegetation growth to the wall.

Repair as per recommendation 33 above.

35). Condensation damp was noted in the rear room, front room 1 and male toilets and to the ceiling in the hall – see photo 240 – see photos 145-146, 149, 151, 153, 155, 166 and 240.

This will be better controlled following recommendation 9 above.

36). Vegetation growth was noted the internal of the fire exit room – see photos 210-211.

It is recommended that all the vegetation is removed to prevent further damage to the property.

37). Rot was noted to the base of the doorway frame to corridor 3 and the storage room – see photos 207-208.

Rotten timber frameworks shall be replaced.

38). No indication of significant movement (through subsidence, settlement or heave), deflection, cracking or other defects to the concrete ground bearing slab. However, it was noted during the survey that the entrance room floor has a slope towards the front wall elevation and so remedial works will be necessary.

The structural integrity of the slab appears adequate, so apply a self levelling screed over to maintain a consistent floor slab level.

39). Also cracking (damage category 1) was noted to the concrete floor of front room 2 and the storage room – see photos 187 and 209. It is expected that minor compaction of the material below the concrete slab has occurred (gaps were noted to the slab periphery) and subsequently minor settlement of the concrete floor slab which has caused the cracking and so remedial works will be necessary.

Loose and cracked sections shall be removed and scabbed back to sound material before a new self levelling screed is applied over the slab surface.

40). A defective drainage channel and lack of drainage gully to the right wall elevation were noted during the survey. Additionally, the rainwater down pipes to the front wall elevation discharge to the pavement without a method for removal of water away from the base of the wall. These defects can allow water to pond and build up against the property increasing the risk of rising and penetrating damp to the internal ground floor areas.

It is recommended that the drainage arrangement to the external of the property is rationalised to remove waster away from the property wall elevations. Discussion

with Neath Port Talbot council would be required due to impact of the rationalised drainage arrangement may have on the pavement to the front of the property.

SECTION 8 GUIDE TO REPAIR COSTS

This section details the 30 most common repairs. The only way to establish the cost of repairs accurately is to obtain estimates from reputable contractors. If you are buying the property, it is essential that you do so before exchanging contracts when you commit yourself to buying at the agreed price.

Prices for repairs vary for many reasons - there are historical variations; the prices of materials fluctuate; the size of the work required can make a job more or less attractive to a builder as can his current workload. No repair is identical to another. **For all these reasons this is a best rough guide.**

The prices are drawn from figures collated and published by the Royal Institute of Chartered Surveyors in their BMI Building Maintenance Price Book. Prices are updated quarterly.

The published figures are given by a unit - e.g. square metre, or per metre length and come from figures given by experienced estimators all over the country. Remember to add on call out charges.

The help you visualise the sums involved, there are some typical costs which you could expect for a three bedroom semi detached house (**all costs are approximate**)

Roof	Unit	Cost £
Repair pitched roof - tiles	sq.m	22.00
- slates	sq.m	31.00
Replace ridge or hip tiles	per m	30.00
Refelt & batten using current tiles/slates	sq.m	44.00
Repair area of damaged felt (flat roof)	sq.m	26.00
Repair flat roof including roof boarding	sq.m	45.00
Repair damaged chimney pot and repoint (900mm high)	each	136.00

Sample : to strip and relay a tiled pitched roof with existing tiles, allow at least £2400

Sample : to strip and relay a tiled pitched roof with new tiles, allow at least £4700

Sample : to renew a small flat roof extension, allow at least £1200

N.B. No costs could be provided for the installation of steel straps to the wall plates and gable ends as this is not a common cost price assessed by the building industry. The author suggests a detailed quote is obtained to cater for the works as recommended in Section 7.

Walls (masonry)

Repoint soft mortar in brickwork	sq.m	12.00
Repoint stonework	sq.m	27.00
Form new door openings in cavity wall	each	312.00
Form new window openings in cavity wall	each	250.00

Fill in window opening	each	174.00
Insert damp proof course (excludes replastering)	m	49.00
Provide air brick to cavity wall	each	45.00
Apply renovating plaster to internal walls	sq.m	21.00
Apply cement/lime/sand render to external walls	sq.m	19.00

Repairing/renovating brick / blockwork - cutting out
Decayed, defective or cracked work and replacing with
New common bricks PC £240/1000 in gauged mortar
(1:1:6) :

Half brick thick	sq.m	126.00
One brick thick	sq.m	247.00
One and a half brick thick	sq.m	354.00
Two brick thick	sq.m	457.00

Ceilings

Repair plaster cracks	per m	5.00
Fix 12.5mm plasterboard	sq.m	28.00
Plaster skim new plasterboard	sq.m	6.00

Sample : renew a bedroom ceiling with plasterboard, allow at least £600

Floors

Renew floor with tongue and groove boards	sq.m	43.00
Renew floor with chipboard	sq.m	20.00

Sample : to treat floors against woodworm throughout, allow at least £1200

Sample : to treat floors (including roof space) against woodworm throughout, allow at least
£1750

SECTION 9

WHAT TO DO NOW

Getting estimates

The cost of repairs may influence the amount you are prepared to pay for the property. Before you make a legal commitment to buy the property, you should get obtain reports and estimates for all the repairs and further investigations the surveyor may have identified.

You should obtain at least two estimates from experienced contractors who are properly insured.

You should also :

1. Ask them for references from people they have worked for
2. Describe in writing exactly what you want them to do
3. Get the contractors to put the estimates in writing

Some repairs will need contractors with specialist skills and who are members of regulated organisations (for example electricians, gas engineers, plumbers and so on). Some work may also require you to obtain Building Regulation permission or Planning Permission from your local authority. You can obtain more advice on these from the Government website at www.direct.gov.uk/en/HomeandCommunity/Planning/Index.htm.

Further investigations

If the surveyor was concerned about the condition of a hidden part of the building they may recommend that further investigations should be carried out to discover the true extent of the problem.

Who you should use for these further investigations

You should ask a suitable qualified and experienced person (SQEP) to undertake the works.

What will the further investigations involve?

This will depend on the type of problem but, to do this properly, parts of the property may have to be disturbed. In some cases, the cost of the investigation may be high.

When to do the work

The condition ratings help describe the urgency of the repair and replacement work. The following summary may help you decide when to do the work.

1. Condition Rating **2**

Repairs should be undertaken soon. Exactly when will depend on the type of problem but it usually does not have to be done straight away. Many repairs could wait weeks or months, giving you time to organise suitable reports and estimates.

2. Condition Rating **3**

Repairs should be undertaken as soon as possible. The speed of your response will depend on the nature of the problem. For example, repairs to a badly leaking roof need to be carried out within a matter of hours, while other less important critical repairs could wait for a few days.

Warning

Although repairs of elements with a Condition Rating **2** are not considered urgent, if they are not dealt with they may develop into more serious repairs. Flat roofs or gutters are typical examples. These can quickly get worse without warning and result in serious leaks.

As a result, you should regularly check elements with a Condition Rating **2** to ensure they are not getting worse.

Appendix A - Typical House Diagram

