

**STRUCTURAL INTEGRITY ASSESSMENT REPORT FOR AN EXISTING THREE  
BEDROOM SEMI-DETACHED GROUND+1+ROOF PROPERTY**



## PEARL ENGINEERS PLANNERS AND PROJECT MANAGERS

Name and address of client:

Address of property inspected:

Reference: **SIR/2024/03/MT**

Weather: **Overcast and Cold**

Date of Inspection: **12-03-2024**

Doc No.	Date	Rev.	Document Type	Prepared By
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## 1. Directives

Upon the instructions received from the client to suspected movement in the external LHS(left hand side) External Brick Wall, Pearl engineers planners and project managers conducted a survey at xxx. To confirm the structural integrity of the property.

## 2. REPORTS ANALYTICAL FOCUS

This report's scope includes the structural integrity of the property pertaining mainly to the LHS external wall suspected movement, however any other structure-related issues observed are also highlighted. The on-site conditions were being investigated via different non-destructive methods such as, physical, visual and acoustics on the materials

We have not conducted a thorough examination of the woodwork or any concealed areas within the structure, and as such, I cannot verify the absence of defects in these sections of the building.

We appreciate the client's cooperation in granting access to the property as scheduled and assisting in addressing inquiries raised during our discussions.

### **3. SCOPE OF WORK**

- Conduct a survey to inspect the structural integrity of the 3 Bed Semi-Detached Property pertaining to suspected movement of the wall.

During the visit dated 12<sup>th</sup> March 2024, the clients were present to guide us throughout the survey.

### **4. Comprehensive Overview of the Property.**

xxx is a Three-bedroom Semi-Detached Property with a clay tiled pitched roof, and it has a timber floor above. Access to the property is gained through the front entrance door within an open porch. The Property has a Reception room, Breakfast room, and a kitchen on the ground floor. The access to the rear garden has been gained through the kitchen and the breakfast room. The first floor has 3 Bedrooms and a full bath. The property has very good loft height clearance.

The property is traditionally built, where the ground floor is a suspended timber joist floor followed by the first floor and the loft floor, the external walls are made up of facing bricks with a clay-tiled roof.

There is a garden and a drive in the front of the property and a good-sized garden in the rear.

## 5. Narratives (Observation/Causes & Prevention).

- 1] The ground floor bay window shows an excessive amount of moisture content alongside its wall, however, the moisture content is to be rechecked in a few months of duration and if it still shows higher levels then a damp proofing course will be installed, although to prevent it from further increase removing render in the front external walls above the DPC course may help.
- 2] Similarly we have noticed damaged guttering along the eaves, any such guttering is to be repaired to avoid any splashes on the external walls. If the wall gets water splashes over the external walls it's very susceptible that incase of any loose pointing it will cause penetrating damp, which is relatively more difficult to identify and resolve.
- 3] The front porch shows historic structural cracks that need to be observed and if incase it's found that they are increasing, then further investigation is required to check for the foundation movement.
- 4] The rear external walls show pointing damages and it's in need of repointing works, therefore it is advised to carry out re-pointing works on the rear external wall.
- 5] The kitchen rear wall along with the utility room shows a very high level of moisture content, whereas damp damage to the finishing is very obvious, the dampness in the kitchen shows signs of rising dampness the reason may include a damaged DPC course. However, a drain pit has been observed exactly at the spot which alarms about any damages in the drain network in the rear of the property. Therefore, before addressing the damp it's advised the drain network should be checked

properly and reinstated, followed by a damp/dry rods treatment.

- 6] Similarly, the external roof tile also shows damages in the front and the rear side of the roof which needs to be addressed in a timely manner to avoid any water leaks inside the loft, such leakages may result in structural damage to the roof and loft structure if any leakages found over a period of time.
- 7] The first-floor front room alongside with left elevation shows no signs of crack internally or externally, similarly the left-hand side of the elevation shows no sign of any structural cracks, however the walls inside the room were found out of plumb and not in a proper right angle, the ceiling of the room is inclined from internal wall to the external wall, as there are no cracks found in the walls, therefore its not attributed to any movement/settlement/subsidence etc.

## 6. Conclusion:

**According to the observations made above the following recommendation and conclusion has been derived.**

“The external EWS shows no signs of settlement/movement or any lean as the client was expecting, there is no structural cracks have been observed”.

There are many significant aspects that needs to be properly taken care of which are as follow

- The external plaster to be terminated at 50mm below DPC level, and the internal bay window walls need to be checked after a period of three months for the moisture concentration.
- The external open porch cracks need to be monitored if there is any increment noted

it should be brought to any structural engineer for assessment.

- All the roofs need to have proper guttering installation, and all the guttering wherever it's damaged to be reinstated to avoid any damage to the existing structure.
- Kitchen rear wall needs a damp roof treatment either dry rods or any injectable resin that forms an impermeable membrane. However it should be once the drainage network is checked by a proper CCTV survey and if any damages are found they are reinstated.
- The main pitch roof external roof tiles need to be reinstated as the damages may allow some water to get inside the roof and cause damage to the loft structure and the structure of the roof itself.
- The rear external wall shows pointing damages repointing to be carried out to avoid any further damage.

All the work to be done in a workmanlike manner in accordance with CDM2015, where the contractor should ensure proper management and safety during the work.

If in case of any issue, please revert back to the undersigned for further investigation. We hope that this letter serves its purpose, however, if you have any questions or concerns, please do not hesitate to reach out and contact us at [Projects@Pearlepp.co.uk](mailto:Projects@Pearlepp.co.uk)