

## STRUCTURAL INTEGRITY REPORT

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX



## PEARL ENGINEERS PLANNERS AND PROJECT MANAGERS

Name of the client: **XXXXXXXXXXXXXXXXXX**

The property inspected: **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**

Reference: **SIR/2024/107/ST**

Weather: **Bright & Sunny**

Date of Inspection: **27-06-2024**

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

Upon the instructions received from the client to inspect the structural integrity of the property, Pearl Engineers Planners and Project Managers conducted a survey at XXXXXXXXXXXXXXXXXXXX.

## 2. REPORTS ANALYTICAL FOCUS

This report's scope limited to the identification of existing major structural issues, causes, prevention, and solutions.

We have not conducted a thorough examination of the woodwork or any concealed areas/non-accessible areas within the structure including loft (if any), and as such, I cannot verify the absence of defects in these sections of the building.

We appreciate the client's/seller/estate agent's cooperation in granting access to the property as scheduled and assisting in addressing inquiries raised during this process.

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

Conduct a structural integrity survey of the property for any potential significant structural issues their causes, prevention, and solutions observed in the property.

During the visit dated 27<sup>th</sup> June 2024, the Real estate agents guided us throughout the survey and addressed all the related queries.

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

XXXXXXXXX is a Three-Bedroom End Terrace property comprised of Ground Floor + First Floor + Pitch Roof. Access to the property is gained through the front main entrance door via the front driveway paved with the concrete paving interlock. The access to the rear garden can be gained through the dining room on the ground floor level.

The property is traditionally built where external brick walls carry the pitched roof structure, and the external walls are made up of facing bricks with a tiled roof except the first floor walls which are timber frames supporting the roof structure. The floors are of solid and suspended timber construction.

## 5. Narratives.

1. The external walls are showing signs of foundation distress, and the structural cracks and repair works observed show that despite repair works the cracks repaired. Due to the reappearance of the cracks, it can be concluded that the foundations are subjected to settlement/subsidence. Please refer to photographs 1,2 and 3.
2. The front porch is also showing the signs of settlement please refer to the photographs 4,5 and 6.
3. Similarly, the external walls' internal skin also reflects such structural cracks. Please refer to photographs 7,8,9,10 and 11.
4. The main building's roof structure shows significant structural damages, where the roof purlins, rafters, and supports are pulling away, similarly, the roof has been supported by temporary supports internally, the rafter shows signs of dampness, and the roof overall property shows the signs of infestation. The main roof structure also has a grey-colour polythene membrane which it's very unlikely to be a breathable membrane and hence will cause the wood to be damp and rot. The roof structure must be reinstated to avoid any collapse. Please refer to photographs 12,13,14,15,16,17 and 18.
5. The outbuilding shows significant signs of dampness and structural damage as well the wall mottels show signs of foundation movement, please refer to photographs 19,20,21 and 22.



## 6. Conclusion:

**According to the observations made above the following recommendations and conclusions have been derived.**

"The internal/external structural cracks reflected in the report shows structural damages to the existing load bearing structural walls of the property, such cracks are usually caused by the movement/settlement/subsidence of the foundations. Therefore, it is advised that a Geotechnical specialist to be appointed to further evaluate the existing condition followed by a design related to soil improvement or strengthening of the foundations. All such works need to be carried out by a specialist contractor in a workmanlike manner in accordance with the regulations followed thereof, The wall lintel can then be replaced and reinstated by replacing the lintels and reinforcing the walls with helical rebars.

The leading cause of such movement/settlement is the change in the water saturation of the subsoil which may get adversely affected in case of any source of water such as a leaking drain network/potable water supply or free rainwater discharge due to improper drain or damaged guttering. Therefore, it is advised to conduct a CCTV survey to check the underground drainage network and reinstate any damaged leak if found, similarly, all other sources of water are to be checked for proper functioning.

The existing roof structure needs to be reinstated on an immediate basis it is advised to change all the rotten joists/supports which has been structurally damaged due to dampness, infestation, or under the loading of the roof to avoid any further damage which may lead to the collapse of the roof structure followed by the treatment of the wood to avoid any further infestation.

If in case any further queries, please revert 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)

Photograph #1





Photograph #2



Photograph #3





Photograph #4



Photograph #5



Photograph #6



Photograph #7





Photograph #8



Photograph #9



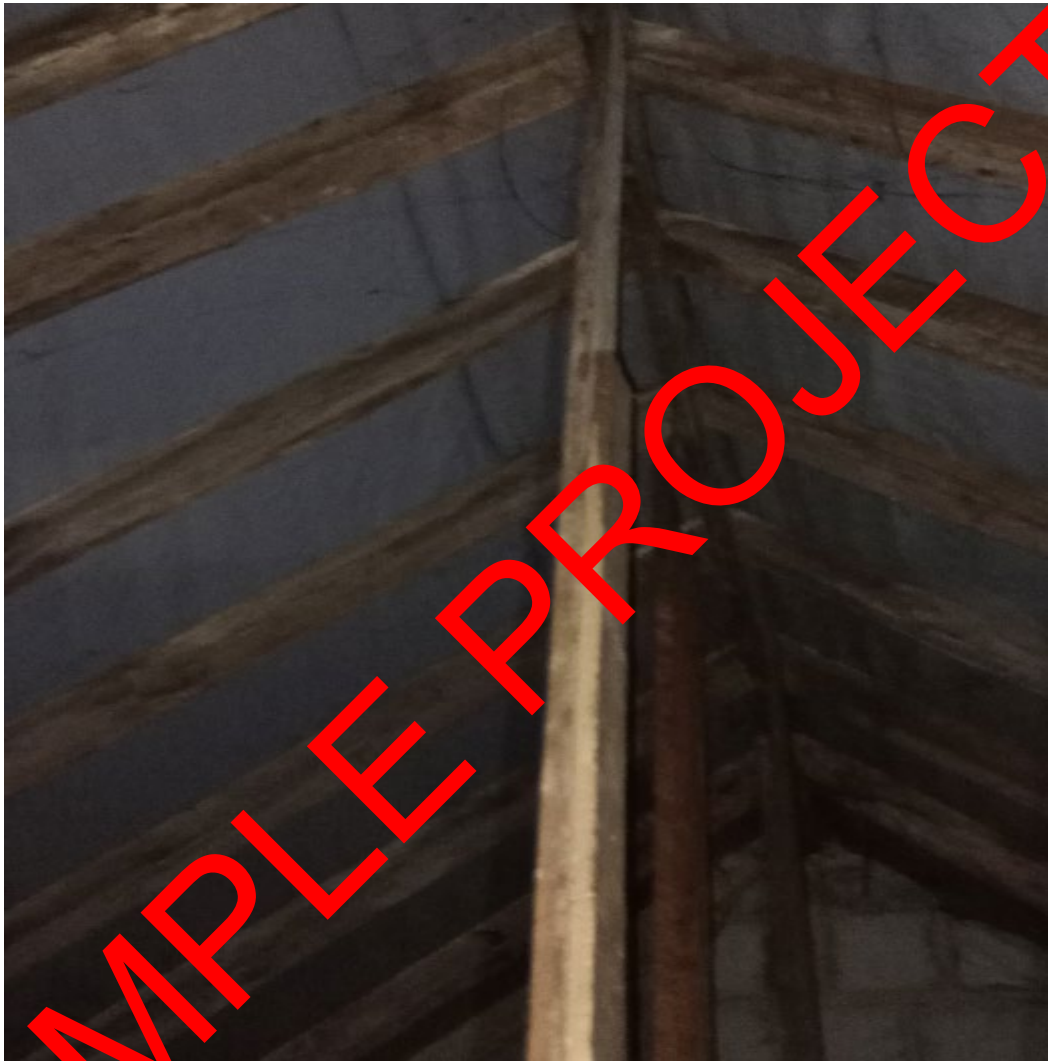
Photograph #10



Photograph #11



Photograph #12



Photograph #13





Photograph #14



Photograph #15



Photograph #16



Photograph #17





Photograph #18



Photograph #19





Photograph #20





Photograph #21



Photograph #22

