

**Pear Tree Farm  
Church Street  
Brierley**



**Structural Inspection Report**

PC/7520  
Oct 2025

# Pear Tree Farm, Church Street, Brierley

## Contents

- 1 Introduction
- 2 Details of the Buildings
- 3 Inspection and Recommendations
- 4 Conclusions

### 1 Introduction

At the request of Lewis Keane of Building Link Design Ltd a structural inspection was undertaken of the buildings at Pear Tree Farm on 9 October 2025 to determine their structural condition.

### 2 Details of the Buildings

The site is occupied by a farmhouse, a bungalow and outbuildings. The farmhouse is a two storey detached building probably built in the 19<sup>th</sup> Century with a pitched roof, timber floors and rubble filled cavity stone external walls. The farmhouse has been extended to the rear using similar construction except the ground floor is solid. The external walls of the original section have been rendered. The bungalow is a single storey detached house built in the 1980's with a pitched roof and brickwork/artificial stone elevations. There was no access to the inside of this property. The outbuildings are single storey agricultural buildings constructed at various times during the 19<sup>th</sup> and 20<sup>th</sup> Century with duo and mono pitched roofs and a mixture of brick and stone elevations. Some of the elevations have been rendered. The right hand projecting outbuilding could not be inspected internally due to stored material. The farmhouse and outbuildings had not been maintained for a considerable time.

### 3 Inspection

#### Farmhouse

The roof void could not be accessed due to the unsafe position of the hatch. It is probable that the roof consists of timber rafters and purlins supported by timber trusses and walls. The ceiling is probably timber joists and binders supported by timber trusses and walls. Externally it was apparent that there was some deviation on the roof lines.

Internally at first floor level there was cracking and sagging of the ceiling over the front left hand bedroom and some loose plaster and sagging of the ceiling over the right hand bedroom [Photograph 1]. The lightweight stud partition in the rear rooms had a 3mm wide vertical crack due to normal thermal and moisture movement. There was damp staining to several areas of ceiling indicating that the roof had leaked in the past and may still have been leaking [Photograph 2]. There was also damp to a number of external walls. The rear rooms had limited headroom.



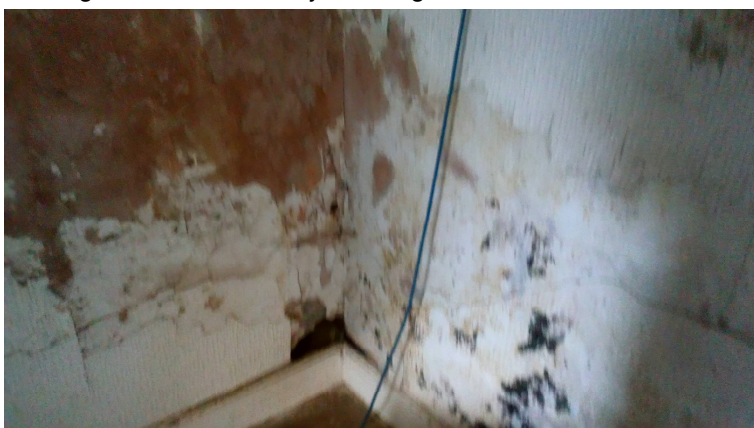
Photograph 1

## Pear Tree Farm, Church Street, Brierley



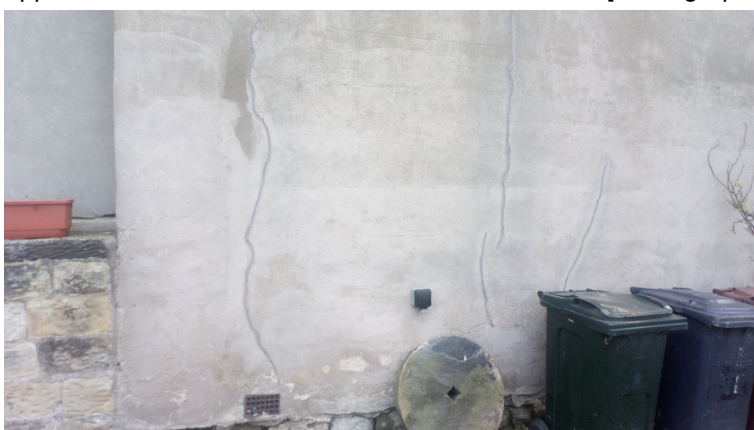
Photograph 2

Internally at ground floor level there was horizontal and vertical cracking up to 0.5mm wide in the walls of the lounges, kitchen and dining room. This appeared to be due to normal thermal and moisture movement rather than any significant structural movement. There was damp to several walls [Photograph 3]. This damp may have affected the ends of the ground floor timber joists. Again the rear rooms had limited headroom.



Photograph 3

Externally the render was in poor condition with extensive cracking, the majority of which had been poorly filled with mastic, and spalling [Photograph 4, 5 and 6]. This cracking appeared to be due to normal thermal and moisture movement, particularly at junctions of the original building with the extensions and at positions of infilled openings, combined with age related failing of the render and expansion forces from corrosion of embedded metal fixings in the walls. No evidence of any significant foundation movement was observed. There had been some movement of the top of the external wall to the rear right hand corner resulting in a 50mm wide gap at the end of the bedroom window lintel and deviation in the line of the wall [Photograph 7]. The cause of this movement was unclear but may have been due to either roof spread or a lack of tie between the outer leaf of stone and the inner leaf. However this damage appeared to be old as the eaves soffit had been cut to suit the deviation several years ago. The brickwork to the chimneys above roof level appeared to have undergone significant erosion. In addition the stonework to the rear of the building had been repointed with cement mortar. This appeared to have accelerated erosion of the stone [Photograph 8].



Photograph 4

## Pear Tree Farm, Church Street, Brierley



Photograph 5



Photograph 6



Photograph 7



Photograph 8

The farmhouse is structurally stable at present. However at some stage it will require extensive refurbishment including replacing the render and mortar with lime based

## Pear Tree Farm, Church Street, Brierley

materials and damp treatment. In addition structural repairs will consist of:

- Forming a new ceiling access hatch in a safe position and checking the roof and ceiling timbers for deterioration due to water ingress. Any damaged timbers will require repair or replacement. In addition the deviation on the roof lines indicates that, typically for this type of property, the purlins are undersized and have deflected. Therefore it is probable that the purlins will require strengthening by bolting additional timbers to their sides.
- Checking the condition of the ceiling structure in the area of sagging. It is probable that timbers will need replacing or strengthening in this area. The ceiling plaster to the right hand bedroom will require replacement.
- Checking the roof structure over the rear bedroom to determine if roof spread has caused the movement of the external wall. Install new ridge beams and purlins. Additional headroom to the rear bedrooms could be achieved by raising the height of the ceiling.
- Tying the high level outer leaf of the rear corner of the building back to the inner leaf with proprietary stainless steel ties at approximately 450mm horizontal and vertical centres. Rebedding the lintel over the rear bedroom window and filling any gaps.
- Checking the condition of the ground floor joists where they are sat in the outer walls.
- Repointing the chimney stacks and replacing the worst eroded bricks.

### Bungalow

No significant structural defects were observed in the external walls. A gutter was loose and was discharging rainwater against the building [Photograph 9]. This should be repaired.



Photograph 9

### Outbuildings.

All roofs were covered by lightweight asbestos cement sheeting. This sheeting was supported by timber purlins spanning between walls and, on the larger buildings, timber trusses. It was apparent that some of the purlins were undersized for the span and loading and had deflected although not to an extent that compromised the structural integrity of the roof [Photograph 10].



Photograph 10

## Pear Tree Farm, Church Street, Brierley

Internal diagonals had been removed from the trusses in the front outbuilding [Photograph 11]. This would reduce the load capacity of the trusses.



Photograph 11

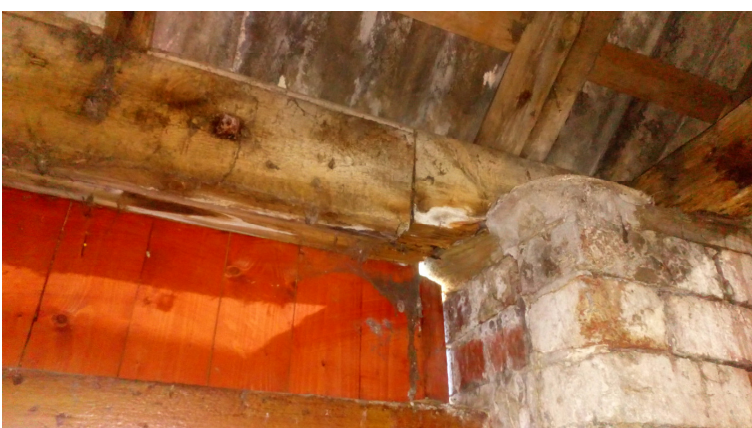
The trusses to the middle outbuilding were undersized for the span and loading and had deflected [Photograph 12]. There was also evidence of rot to the ends of the trusses and to the lintel over the main doorway [Photographs 13 and 14].



Photograph 12



Photograph 13



Photograph 14

## Pear Tree Farm, Church Street, Brierley

The roof to the rear workshop was covered in sheeting and could not be inspected. An internal wall had been removed and a timber truss installed [Photograph 15]. The configuration of the truss would result in excessive deflection under heavy roof loading. A timber lintel over an opening between the middle outbuilding and workshop was undersized and had deflected [Photograph 16]



Photograph 15



Photograph 16

There was limited access to the right hand projecting outbuilding but it was apparent that the roof sheeting was missing over one end and therefore it is probable that the roof timbers have deteriorated. There was a 50mm wide vertical crack above the internal doorway of the outbuilding, probably due to an inadequate timber lintel combined with some lateral movement of the external wall due to deflection of undersized purlins [Photograph 17].



Photograph 17

The ground floors of the outbuildings, where visible, were a mixture of concrete and brickwork. They will not have any dampproofing or insulation.

## Pear Tree Farm, Church Street, Brierley

The walls were a mixture of stone and brick [Photographs 18 and 19]. There was no evidence of any significant cracking to indicate foundation movement was occurring. However there were some vertical cracks up to 25mm wide at poorly bonded junctions between the different walls/materials. There was also some frost damage to areas of masonry [Photograph 20]. Some external walls had been rendered and the render was in poor condition and was spalling in some places [Photograph 21].



Photograph 18



Photograph 19



Photograph 20



Photograph 21

## Pear Tree Farm, Church Street, Brierley

The outbuildings are structurally stable at present. If they were to be converted to habitable accommodation they would require extensive refurbishment including replacing the render and mortar with lime based materials and damp treatment. The roof sheeting would probably be replaced with tiling. This, combined with new insulation and ceilings, would increase the loading on the roof structure. Structural repairs would consist of:

- Strengthening or replacing all structurally inadequate trusses, purlins, rafters and lintels.
- Repairing or replacing all rotten sections of timber.
- Replacing the missing diagonals to the trusses in the front outbuilding.
- Strengthening the poorly bonded sections of masonry with steel ties and straps.
- Replacing the ground floor with a suitably dampproofed and insulated floor slab.
- Cutting out and replacing the worst areas of frost damaged brickwork.

### Conclusions

The farmhouse and outbuildings are in a poor state of repair although are currently structurally stable. If no repairs or routine maintenance are undertaken then further deterioration will occur. Refurbishment of the farmhouse and conversion of the outbuildings will require an extensive amount of work. The bungalow appears to be in a good structural condition although it is relatively modern and has no historic merit.



P Carter MSc (Conservation of Historic Buildings) CEng MIStructE  
For Paul Carter Design Ltd  
[paulcarterdesign@btconnect.com](mailto:paulcarterdesign@btconnect.com)