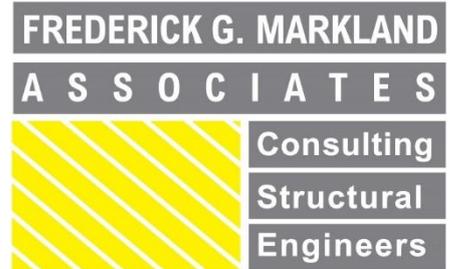


CM/JMM/ Y21055

3<sup>rd</sup> September 2021

Mr Jason Winter  
Winworth Construction Ltd  
Height Barn Farm  
Edgeside Lane  
Waterfoot  
Rossendale  
BB4 9TZ



Corby House  
38A Chorley New Road  
Bolton  
BL1 4AP  
Tel: 01204 531 208  
Fax: 01204 380 474  
Email: fgmarkland@btconnect.com  
Web: www.fgmarkland.co.uk

Dear Jason,

**Re: – Structural Inspection of Orchard Works, Pilling Street, Waterfoot, Rossendale, BB4 7AU.**

We confirm our site visit and structural inspection on the 9<sup>th</sup> August 2021.

**Project Brief.**

To visit the above site to carry out a structural inspection of the stone building known as Orchard Works to establish its structural condition for future re-development.  
To prepare a written report outlining our observations and conclusions as appropriate.

**General.**

The existing Semi-detached building is of stone construction with a pitched roof with slate covering.  
The building comprises of a suspended timber ground floor area, suspended timber first floor area with a half storey basement area extending under the footprint of the suspended ground floor.  
To the rear of the premises is a single storey mono-pitched stone lean too with ground bearing floor construction.  
The building is constructed directly up to the adjoining stone property, however there are 2No separate party walls with a narrow gap between the two properties which has been roofed over. There has clearly been historic link doors and passageways internally between the two adjacent properties.

**External Inspection.**

The external inspection revealed that the main front elevation, incorporating a large entrance doorway, has been influenced by considerable lateral distortion affecting its full height. At low level this elevation was noted to bow outwards towards first floor level. Above this level the front elevation was noted to be leaning back in to the building significantly. The corner junction of the front elevation and left hand side elevation was

suffering from significant vertical cracking were the gable wall was parting company with the side elevation. The stonework bed joints were generally noted to be level and true indicating that foundation movement was not occurring.

The inspection progressed to the left hand side elevation.

This revealed significant outwards distortion to the full length of this elevation with outwards movement recording as much as 40mm in the length of a 900mm spirit level. Extensive external tension cracks were noted as a result of the outwards curvature of this elevation. The stonework bed joints were generally noted to be level and true indicating that foundation movement was not occurring.

The inspection progressed to the rear elevation incorporating the rear mono-pitched stone lean too.

The main high level gable was constructed from random stone with some exposed bricks forming the outer face of former chimney flues. The mortar joints to this elevation were particularly weathered and open. Loose stonework was clearly apparent at high level around the central chimney stack. Lateral distortion was also apparent within this high level elevation. Frost damage and loose stonework was apparent in many location due to historic long term saturation of the wall due to the poor condition of the mortar joints. The existing side wall to the stone lean too fronting the narrow access road had partially collapsed and was in very poor condition. The rear elevation to the outrigger was mainly of coursed stone construction, with some isolated brick infill panels. This wall was in poor condition, with open and weathered mortar joints and significant lateral distortion.

The corrugated asbestos roof sheets were cracked and distorted due to the significant deflection that had occurred within the existing roof structure.

### **Internal Inspection.**

The inspection progressed to the first floor area.

This revealed the existing roof structure comprising intermediate large span timber feature trusses taking support off the left hand side wall and party wall. The trusses supported existing timber purlins to both roof slopes along with a central timber ridge.

The inspection revealed that the bearing locations for the timber trusses had been affected by long term water ingress. As a result the ends of these trusses had been significantly weakened by rot affecting the timber. In some locations the internal diagonal timber members within the trusses had failed and had been replaced with short length steel props. The timber purlins were noted to be suffering from lateral deflection causing them to bow sideways along their length. Wet rot was noted to be affecting the bearing locations of the timber purlins and ridge at their intersections with both gable elevations. Additionally the existing timber rafters were noted to be pulling away from the ridge member and had been restrained in the past with intermediate slender steel straps.

There were no internal cross walls within the building and the first floor area was open plan. As a result there is a significant lack of lateral tying and stability offered to the external walls.

Substantial internal cracks were noted around the first floor window heads where lateral movement had occurred between the main roof trusses and the stone side wall.

Additionally vertical cracking was noted at the corner junction of the front elevation and left

hand side elevation. Internally significant lateral distortion of the outer walls was identified which mimicked the distortion noted externally.

The existing timber first floor structure was noted to have a cross fall down towards the left hand side elevation.

The inspection progressed to the ground floor area.

This revealed that the existing timber first floor structure was constructed from large timber floor beams supported by the left hand side perimeter wall and the party wall with central intermediate support provided by a line of cast iron columns. The main timber floor beams provided support to the existing timber first floor joists.

The bearing locations for the timber floor beams had been affected by long term water ingress. As a result the ends of these floor beams had been significantly weakened by rot affecting the timber.

The existing timber floor joists were noted to be trimmed and supported over the main front elevation doorway. As a result these joists offer no lateral restraint to this portion of the front elevation, which has significantly contributed to the lateral distortion noted in this elevation. There were no internal cross walls within the building and the ground floor area was open plan. As a result there is a significant lack of lateral tying and stability offered to the external walls.

Internally significant lateral distortion of the outer walls was identified which mimicked the distortion noted externally.

The existing timber ground floor structure was noted to have a cross fall down towards the left hand side elevation.

The existing timber roof structure within the mono-pitched rear lean too was significantly rotted. Safe access to this area for inspection purposes was very limited due to danger of roof collapse.

The inspection progressed to the basement floor area.

This revealed that the existing timber ground floor structure was constructed from large timber floor beams supported by the left hand side perimeter wall and the party wall with intermediate support provided by a network of cast iron columns and timber props. We suspect that the timber props have been installed to locally strengthen the floor along with providing end support where the original timber beams had rotted at the damp bearing locations. The main timber floor beams provided support to the existing timber ground floor joists. The basement floor was noted to have a York stone finish.

The perimeter walls were noted to be acting as low level retaining walls.

There were no internal cross walls within the building and the basement floor area was open plan. As a result there is a significant lack of lateral tying and stability offered to the external walls.

### **Conclusions.**

The inspection has revealed that the existing building has suffered extensively due to a lack of lateral stability offered to the external walls. The open plan internal area at all floor levels has resulted in a significant weakness within this building which has resulted in slow but progressive distortion within all external elevation. This has now reached a magnitude that is beyond reasonable retention. Therefore full demolition is recommended to avoid the risk of future collapse.

Added to this major issue is the ageing process and lack of regular maintenance to the roof and external elevations. This has allowed a significant amount of water to enter the building over a prolonged period of time. Resulting in extensive wet rot to the main structural elements of the roof, first floor structure and ground floor structure, to a level that none of these elements of the structure are considered suitable for retention.

**Photographs.**

We attach electronically a selection of our survey record photographs for your reference.

We trust that the above outlines our observations and conclusions following our recent structural inspection.

Please do not hesitate to contact me if you should wish to discuss any aspect of the above.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Chris Markland', written in a cursive style.

Chris Markland  
BSc (Hons) CEng MIStructE  
Director

Enc – Photographs (By E Mail)