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For the attention of: Matthew Hurst

Our Ref: 4816/NG/GB

12th May 2011

Dear Sirs

BARN ADJACENT TO NO. 3 WATERSIDE COTTAGES, OFF DOLLY LANE, NEW MILLS

Further to our meeting with you at the above property on 27th April 2011, we write, as requested, to advise our initial observations relating to the condition of the existing building and potential for future development.

As you are aware, we have been asked to provide a brief overview only, based on a limited inspection of the existing building. WML have not had opportunity to investigate existing foundations, undertake any measurements of bowing masonry or other distortions, nor fully record the extent of existing cracking and structural defects.

The comments and recommendations contained within this letter should be considered as provisional and subject to the findings of further investigations to establish foundation arrangements and a detailed inspection of the property.

The existing property is currently in a derelict state and appears to have formerly been used as a barn or storage building.

The building is L-shaped with a double height space effectively forming the end terrace of a row of cottages. A single storey wing adjoins. Within the double height part of the building, there was evidence of a former suspended first floor or partial floor; however, this is no longer present.

There is extensive bowing of the front wall of the property when viewed from the inside. However, the bow is not significantly evident from the outside. It is likely that this bowing has been caused or exacerbated by the removal of the suspended first floor, which would have formerly acted as a structural diaphragm to laterally restrain the perimeter walls.

The existing walls appear to have been constructed as separate leafs of random stonework. It is possible that the cavity is also rubble filled, as would be typical of this form of construction. The walls appear to have been originally pointed, although this pointing is now in a very poor state and no longer functioning to either bond the stonework leafs as a homogenous unit or inhibit the passage of rainwater.

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There are several other areas within the double height part of the building where the inner leaf has also bowed. The extent of bowing was significant, but not as extensive as the bowing to the front wall. The most notable of these was at high level to the gable.

When viewed from the outside of the property, there was an apparent bowing of the outer leaf at mid height of the wall at the junction with the adjoining cottage.

A new roof appeared to have been recently installed to this part of the building. This incorporated new tiles, felt, battens and rafters, but retained the original purlins, which are simply tree trunks. Although it would be difficult to justify by calculation the structural adequacy of these purlins, there did not appear to be excessive distortion of the recently constructed roof.

The single storey wing appeared to be in a generally poor condition. There is no roof structure currently present and the rear wall has partially collapsed. In addition, there is significant tree growth bound to part of the rear wall and given the current condition, it is unlikely that the vegetation could be removed without causing further collapse. The front part of this building contained an internal cross wall. Whereas at the time of the visit we could not gain access to inspect from within, the condition from the outside appeared to be reasonable.

The lintel over the front door to the single storey wing had completely failed and had broken in two. This had caused some significant but localised distortion of the masonry around the door.

In summary, it should be recognised that this property is in a very poor structural condition. As part of any development, it is inevitable that some of the existing masonry walls would need to be demolished to make safe, as the distortions are far in excess of what could be reasonably dealt with using traditional repair methods.

In particular, the bowing of the inner leaf of the front wall should be dealt with by careful demolition and removal. It is likely that some form of temporary lateral support would be required to retain the vulnerable outer leaf, prior to the inner leaf being rebuilt, and this could incur significant cost to the development. Similarly, it is recommended that the rear wall of the single storey wing be partially demolished.

Based on recent discussions for the proposed development, we understand that it would be intended to introduce a new suspended first floor and this could be used to reintroduce the structural diaphragm to restrain the walls at mid height. Also, by strategically positioning new windows at the position of significant bowing, there would be opportunity to locally take out the distorted sections of stonework.

As part of the proposed development, the following aspects are recommended to be incorporated in order to ensure the structural integrity of the building.

- Review structural capacity of recently constructed roof, particularly the existing purlins, and strengthen as necessary.

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- Review capacity of existing foundations to support loads from new first floor structure and strengthen as necessary.
- Install new suspended timber first floor structure with 22mm minimum floorboards securely fixed down to the joists to form a structural diaphragm.
- Install new roof structure over single storey wing.
- Temporarily support the existing outer leaf whilst taking down the extent of inner leaf, which has bowed, and rebuild in solid blockwork. It is anticipated that it would be sufficient to take down to first floor level only. It may also be necessary to temporarily prop the roof structure to enable the inner leaf to be removed, although it is likely that the new roof is supported by the outer leaf only.
- Partially demolish the rear wall of the single storey wing and rebuild as a stonework outer leaf tied to a blockwork inner leaf.
- Install a new structural opening for a window at first floor level in the gable wall at the location of the existing bow. Form opening so that the outer and inner leafs are bonded or well tied at the heads, cills and reveals.
- Install new proprietary remedial cavity wall ties at 450mm horizontal and vertical staggered centres to all perimeter walls to their full height.
- Install proprietary remedial ties to tie the front and rear walls into the existing party wall with No. 3 Waterside Cottages.
- Rake out, repack and re-point the inner and outer leafs of all perimeter walls to their full height.
- Install new ground bearing floor slab laid on insulation.

It should be noted that it is possible that additional items may also be required, which have not been identified from our brief site visit. Also, the order of the list does not necessarily represent the order in which construction operations should be carried out on site.

It should be recognised that the works identified could well be expensive and slow to carry out and the Contractor would need to be made aware of the vulnerability of the existing building condition. Care would need to be taken at all times to guard against local collapse.

Should your Client propose to continue with the development then we would recommend, as the next stage, for us to undertake a full structural inspection, incorporating investigations of the existing foundation arrangement and provide a report on our findings, together with recommendations for the proposed development.

We trust that you will find the above to be sufficient for your present needs. However, should you require any clarification or any further assistance then please do not hesitate to contact us.

Yours faithfully

Wright Mottershaw Lydon


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