

Mr A Bennett
Old Forge House
Arundel Road
Angmering
West Sussex
BN16 4JZ

Our Ref: PJG/sh/10341/001

29th November 2010

Dear Mr Bennett

Re: **THE FORGE AT OLD FORGE HOUSE, ANGMERING**

I confirm visiting the above property on Thursday, 25th November 2010 to inspect the cracking to The Forge. The inspection and report have been carried out in accordance with the Consulting Engineers Conditions of Appointment Agreement No 3, which is enclosed. I comment as follows:-

1. The Forge was an old flint and brick detached building, probably constructed in the order of 200 years ago, having had various uses during its life.
2. Philip Goacher Associates inspected and reported on the building in 1998. Since that time the property has had a first floor added and has been renovated with new garage doors.
3. For the purposes of this report the wall abutting the road was assumed to be on the west side of the building.
4. External Observations
 - 4.1 The external walls were a mixture of flint, brick and render. The east, west and north walls being mainly flint and the south wall rendered.
 - 4.2 The west wall was noted to be severely bowed. Areas of repair to the mortar around the flints were noted. No significant recent cracking was noted.
 - 4.3 The east elevation, again, was bowed, but not to the extent that was present to the west wall. This wall had two large openings where garage doors had been installed.
 - 4.4 Lateral restraint pattress plates were noted on the west elevation, only two of which were noted to span across the building internally.
 - 4.5 Pattress plates were also noted at the north and south ends of the building, along with corner straps at the north end.

- 4.6 Repairs to the flint work were present to the south and east walls, none of which appeared to have re-opened significantly.
- 4.7 Cracking to the render to the west of the entrance door on the south elevation was noted. This appeared to be superficial and, I understand, was old.
- 4.8 Minor cracking on the east elevation in the south-east corner was noted.

5. Internal Observations

- 5.1 At ground floor level a pier was present on the west elevation, towards the north end, which was noted to have cracked at low level. The cracking extended into the west wall running up to the lateral restraint bar.
- 5.2 Vertical cracking was present at ground and first floor levels in the north-east corner.
- 5.3 The first floor was of timber construction with a central supporting beam spanning east to west supported on timber posts and floor joists spanning north to south. The staircase was located in the south-west corner.
- 5.4 Cracking was present on the west wall in the south-west corner and above the first step of the staircase.
- 5.5 The south lateral restraint tie bar spanning east to west was noted to be loose. The north tie bar was tight.
- 5.6 At first floor level cracking to the west wall was present above the stairs and towards the south-west and north-west corners. The crack in the north-west corner being a continuation of the crack noted to the pier at ground floor level.
- 5.7 The roof structure was timber boarded with purlins at mid-height supported by two trusses.
- 5.8 The truss joints between the sloping timber rafters and the horizontal tie beams were split and ongoing movement was thought to be present. The east end of the south truss had metal plates and bolts added to try to support the joint. This appeared to be unsuccessful.
- 5.9 Four steel beams spanning east to west were noted to have been cut off at their bearings in the past. These were thought to have been installed when the building had been the local blacksmiths.
- 5.10 A large timber member spanning east to west appeared to have been removed from the bottom of the rafters to the north truss. The horizontal truss members now being located above the wall plate.

6. Conclusions and Recommendations

- 6.1 The property, being an old flint building with a truss rafter and Sussex hip roof, had suffered from structural movement during its life. Some ongoing movement is to be expected with this type of building, with cracking and opening of joints.
- 6.2 Of concern at this time are the truss rafters where the joints between the rafter and horizontal beams have split and movement has occurred. It is recommended that these joints are strengthened.
- 6.3 The cracking to the west wall internally, although not significant at the moment, should be monitored. The best way of monitoring the cracks will be to carry out repairs and check to see whether the cracking re-opens.
- 6.4 The west wall pointing was in poor condition and it is recommended the elevation is re-pointed. This may help reduce the movement and cracking to the west wall, which could have deteriorated due to the poor pointing. Re-pointing this wall may require Listed Building Consent.

As requested, I enclose a brief Schedule of Works for the repairs and strengthening required at this time and confirm sending this to Beaumont Building Contractors to obtain a price. I anticipate Mr Charman of Beaumont Building Contractors will contact you to arrange a mutually convenient time to visit the property to establish the scope of works.

I suggest I am further involved with the works and will be happy to obtain further competitive tenders on your behalf should you wish and also to check on the situation regarding obtaining Listed Building Consent. It is also recommended that I visit the property during the works to inspect the re-pointing, truss joint strengthening and crack repairs. I would undertake this work in accordance with the Consulting Engineers Conditions of Appointment Agreement No 2 which I enclose.

I also enclose a receipted fee account for the fee which you were kind enough to pay by cheque on site.

Should you have any queries, please do not hesitate to contact me.

Yours sincerely

P J GOACHER

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