
From: John Pearson <enquiries@jdparchitects.co.uk>
Sent: 04 January 2024 16:52
To: Matt Jedruch
Subject: Re: 23/01080/P3CQ - Red House Farm, Ratcliffe Culey
Attachments: PastedGraphic-1.tiff; structural Report Text p4-5.pdf

Hi Matt,

Please find attached the final port of the report.

Kind regards

John

John Pearson TD B.Arch RIBA

JDP Architects

07703 482710enquiries@jdparchitects.co.uk

www.jdparchitects.co.uk

On 4 Jan 2024, at 16:18, Matt Jedruch <Matt.Jedruch@hinckley-bosworth.gov.uk> wrote:

Hi John,

Thanks for the update. Alternatively you can split the report into multiple pdf's if that's easier.

Many thanks,

Matt

Matt Jedruch (He/Him)

Senior Planning Officer

Tel: 01455 255809

Mob: 07721857007

Email: Matt.Jedruch@hinckley-bosworth.gov.uk

Web: www.hinckley-bosworth.gov.uk

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From: John Pearson <enquiries@jdparchitects.co.uk>

Sent: Thursday, January 4, 2024 4:17 PM

To: Matt Jedruch <Matt.Jedruch@hinckley-bosworth.gov.uk>

Subject: Re: 23/01080/P3CQ - Red House Farm, Ratcliffe Culey

Hi Matt,

The copy of the report I have is too large to be emailed. I've asked for a copy in a different format but I'm still waiting for it. I'll forward it as soon as I receive it.

Kind regards

John

John Pearson TD B.Arch RIBA

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On 28 Dec 2023, at 17:15, Matt Jedruch <Matt.Jedruch@hinckley-bosworth.gov.uk> wrote:

Hi John,

I hope you had a good Christmas.

I am just going through the Class Q submission and I see the structural survey photos on file, but I have not yet received the structural survey report. Please can you share?

Many thanks,

Matt

Matt Jedruch (He/Him)

Senior Planning Officer

Tel: 01455 255809

Mob: 07721857007

Email: Matt.Jedruch@hinckley-bosworth.gov.uk

Web: www.hinckley-bosworth.gov.uk

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- 4.2 Bearing in mind that the worst areas of bowing to the tops of the front and rear external walls coincides with the area where the roof ridge is sagging most, I believe that the two defects are linked. In my opinion the weight of the roof dropping has most probably pushed the top of both of these walls outwards. The reason for this happening is most likely to be due to a combination of a lack of any ridge purlins and weakening of the existing purlins due to either insect infestation or wet rot. I therefore recommend, that the proposed refurbishment works should include careful taking down and rebuilding of the top 1.5 metres to 2.5 metres of the front and rear walls of the barn after removal of the roof structure. All frost damaged bricks should either be turned to hide the damage within the newly constructed wall or completely replaced. This should be possible by taking down parts of the two internal walls where suitable matching bricks can be found. The crosswalls should then be rebuilt using blocks or non-matching bricks, which will be hidden by the finishes. I also recommend that new ridge purlins should be installed under the full length of the roof. A full assessment should also be made to establish, which if any of the existing purlins can be reused. However, I recommend that all of the timber rafters should be replaced with deeper section softwood timbers to provide adequate space for the sloping roofs to receive suitable thermal insulation boards.
- 4.3 Currently the Building Regulations stipulate that the minimum depth of foundations in clay subsoils is to be 1.0 metre below existing ground level. As mentioned previously, the existing foundations appear to have been excavated to a depth of approximately 600mm, and as such do not meet this requirement. Therefore, it is possible that the Building Inspector for the refurbishment works will stipulate the need for underpinning to all of the existing foundations. On the other hand, no subsidence cracking was identified during my inspection and no large trees or shrubs are located close to the building. Therefore, it could be argued that the existing depth of the foundations has proved to be satisfactory for many years. However, the refurbishment of the barn will inevitably increase the loads supported by some of the foundations. Therefore, as a minimum, I recommend underpinning of the two gable walls and the two internal crosswalls. These walls should then be used to support the majority of the roof and 1st floor loads.
- 4.4 I believe the north west gable wall has suffered from more significant frost damage due to the fact that it is constantly in the shade as a result of its orientation. Consequently, it will take longer to dry out than the other walls during periods of very cold weather thus making it more vulnerable to frost damage. Therefore, I recommend that a large area of this wall above 1st floor level should be carefully taken down and rebuilt in a similar manner to that specified for the bowing walls mentioned in item 4.2 of this report.
- 4.5 The varying amounts of mortar joint and brickwork cracking above the timber lintels is in my opinion due to excessive deflection and general failure of these lintels. Therefore, I recommend their replacement with either galvanised or stainless steel, purpose made, lintels to suit each opening. I also recommend rebuilding of the brickwork above the arched opening to the large external door with a lintel built into the brickwork above the arch.
- 4.6 I believe that the existing insitu concrete ground bearing slabs are unlikely to be fit

for purpose due to a lack of a suitable damp-proof membrane and underfloor thermal insulation. Therefore, I recommend that they should be completely removed and replaced by new reinforced concrete ground bearing slabs incorporating thermal insulation and a suitable damp-proof membrane. I also anticipate that it will be necessary to create a damp-proof course in all of the load bearing walls using injected chemicals. However, before doing so I recommend obtaining a detailed report on rising damp in all of these walls.

- 4.7 With the exception of the above-mentioned defects, I am of the opinion that the barn is generally in a reasonable condition and is very suitable for refurbishment and conversion to a domestic dwelling. Therefore, if all of the recommendations given in this report are undertaken to a satisfactory standard, I believe that the barn will remain serviceable for many years to come.

Prepared by:



**S L Pountney, BEng, CEng, MICE, MStructE, FFB.
For SLP Consultants**