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STRUCTURAL APPRAISAL REPORT

Updated 1st March 2024

Proposed Development of New Platt Farm House, Carriage Drive, Littleborough

DATE OF INSPECTION: 1st March 2024

WEATHER: Cloud cover, moisture and slight rain.

SURVEYOR: James Fox BEng (Hons).

TYPE OF SURVEY: The structural appraisal of existing stone built barn only. No comment on building services, drainage, outbuildings, boundary fences and adjoining properties, nor does it include the disruptive opening up of fixings or finishes.

TYPE OF STRUCTURE: The building is load bearing solid stone walls of varying thickness and stone types.

AND MATERIALS OF Timber pitched roof structure and stone walls. The building is rectangular in plan and offers

CONSTRUCTION window and door openings with stone lintels and surrounds.

USE OF STRUCTURE: Single storey barn currently used as storage.

AGE AND ALTERATIONS: The precise age of the structure is not known. Connected barn and stable structures seem to be original.

INSPECTION – Barn

1. Externally the existing barn is faced using a rustic coursed stone throughout of varying lengths. Window and door surrounds consist of natural stone pieces with mortared joists. The internal face of external walls is painted natural stone with no clear signs of damp egress suggesting a possible cavity wall construction or more likely an effective rubble filled stone cavity wall.
2. No internal walls present at time of inspection.
3. Ground floor is exposed ground with minor stone infilling to create a surface that is somewhat consistent in level.
4. Roof structure consists of two king post trusses positioned to the centre of the barn supporting 2 purlin beams per roof plane (total of 4 purlins). Purlins provide support to timber common rafters. Timbers appear to be in good condition. Spike test revealed excellent timber condition with the spike end penetrating a few millimetres, no visible or physical soft spots found.
5. The existing barn is directly linked to the main farm house and therefor continues the slate roof finish of the main farm house which has been recovered in the past 12 months making the current roof extremely water tight.
6. 2 internal cracks noted on the original inspection have not altered and will require 6mm x 30mm galvanised straight bar heavy screwed into the stone either side to protect the cracks from moving further. Cracks likely to have occurred through age, minor movement and the effects of freeze thaw cycles and changes in ambient temperature and moisture variations given the barn is exposed to external weather changes.
7. A large barn door is located facing South with stone surrounds and heads matching the existing dwelling. All plumb and even and in good condition.

INSPECTION – General Notes

1. Generally all the walls throughout are vertical to the eaves, variations in the wall are caused by uneven stone sizes used in the original construction of the walls and will not require any re-build to make them plumb. There are no clear signs of settlement or movement cracks, any such settlement has occurred evenly and the building has coped with the settlement. Cracks identified within the barn are likely due to the environment which the barn is exposed to.
2. Foundations were exposed at the time of inspection and found to be sound, robust and in good condition.
3. The external perimeter walls do not show any clear signs of moisture penetration however the uncertainty of a cavity within the existing walls should be investigated; additional internal damp proofing may be required.
4. The lower parts of the existing perimeter walls do not appear to have a damp proof course and as part of the conversion it should be provided with a new damp proof course and possible cavity tray to expel any cavity moisture to the outside.

PROPOSAL

1. Internal refurbishment of the barn would see the grubbing up of the existing floor and the introduction of a new concrete floor following the inspection of the existing foundation depths around the perimeter. New ground floor timber walls and new ground floor masonry walls with independent foundation will be introduced adding to the structural integrity of the building. The introduction of a first floor with associated timber walls. Retaining and making good the existing roof structure.
2. New windows and door openings formed through existing masonry walls are to be supported using heavy duty steel lintels where catnics are feasible or RC lintel arrangements in either case finished externally with stone lintel to match the existing historic openings.

CONCLUSION & ADDITIONAL OBSERVATIONS FROM RECENT INSPECTION.

1. Overall, the external face of the structures is in good condition and is visually appealing producing no need for external refurbishment to the existing elevations.
2. The masonry walls do not exhibit any bulges and the eaves to most elevations are not out of plumb. Where no visible deformations of the like are found the walls appear to be satisfactory. Given the method of conversion to the retained structures, the walls will be strengthened via the introduction of new floors and new masonry walls, specifically the barn would benefit greatly through the introduction of a new first floor which would tie the building together at an intermediate point of the masonry walls. The existing barn roof structure has been inspected prior to the reroofing works enabling the retention of the existing king post roof.
3. Existing openings within the perimeter walls do not show any signs of sagging or need for remedial work, therefor existing openings are to be retained where possible given the proposed floor layout.

4. A comprehensive visual inspection of the barn was carried out, focusing on key structural elements such as:

Roof structure

Walls

Foundations

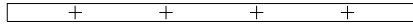
Roof Trusses and Timbers.

5. Findings Based on the visual inspection, the following findings have been observed:
6. Roof Structure: The roof structure appears to be in satisfactory condition, with no visible signs of sagging or significant damage. Roof tiles are intact with no signs of wear as the barn appears to have been re-roofed recently.
7. Walls: The walls exhibit signs of weathering and minor cracks, typical for a structure of this age. However, there are no indications of major structural instability or significant deterioration, there is no need for any major or minor rebuild, just galvanised steel bar stitching across two insignificant cracks.
8. Foundations: The foundations appear sound, with no evidence of subsidence or structural weakness. There are no visible cracks or signs of settlement.
9. Roof Trusses and Timbers: Structural trusses and timbers show no signs of significant damage or decay. Timber elements may require routine maintenance such as painting or treatment to prevent rot.
10. Recommendations Based on the findings of the appraisal, the following recommendations are proposed:
11. Regular maintenance: Implement a schedule for routine maintenance tasks such as painting, sealing, and treating timber elements to prevent decay and prolong the lifespan of the structure.
12. Structural monitoring: Periodically monitor the condition of key structural elements, particularly after extreme weather events or seismic activity, to detect any signs of deterioration early.
13. Drainage improvements: Ensure proper drainage around the barn to prevent water accumulation, which can lead to moisture-related issues such as rot and mold growth.
14. Pest control measures: Implement measures to prevent pest infestations, which can cause damage to structural components over time.
15. The structural appraisal indicates that the barn is in satisfactory condition, with no immediate need for rebuilding or taking down main walls to rebuild, they are all plumb, safe and in excellent condition for a barn of this age. However, regular maintenance and monitoring are recommended to preserve the structural integrity of the building and ensure its long-term viability.

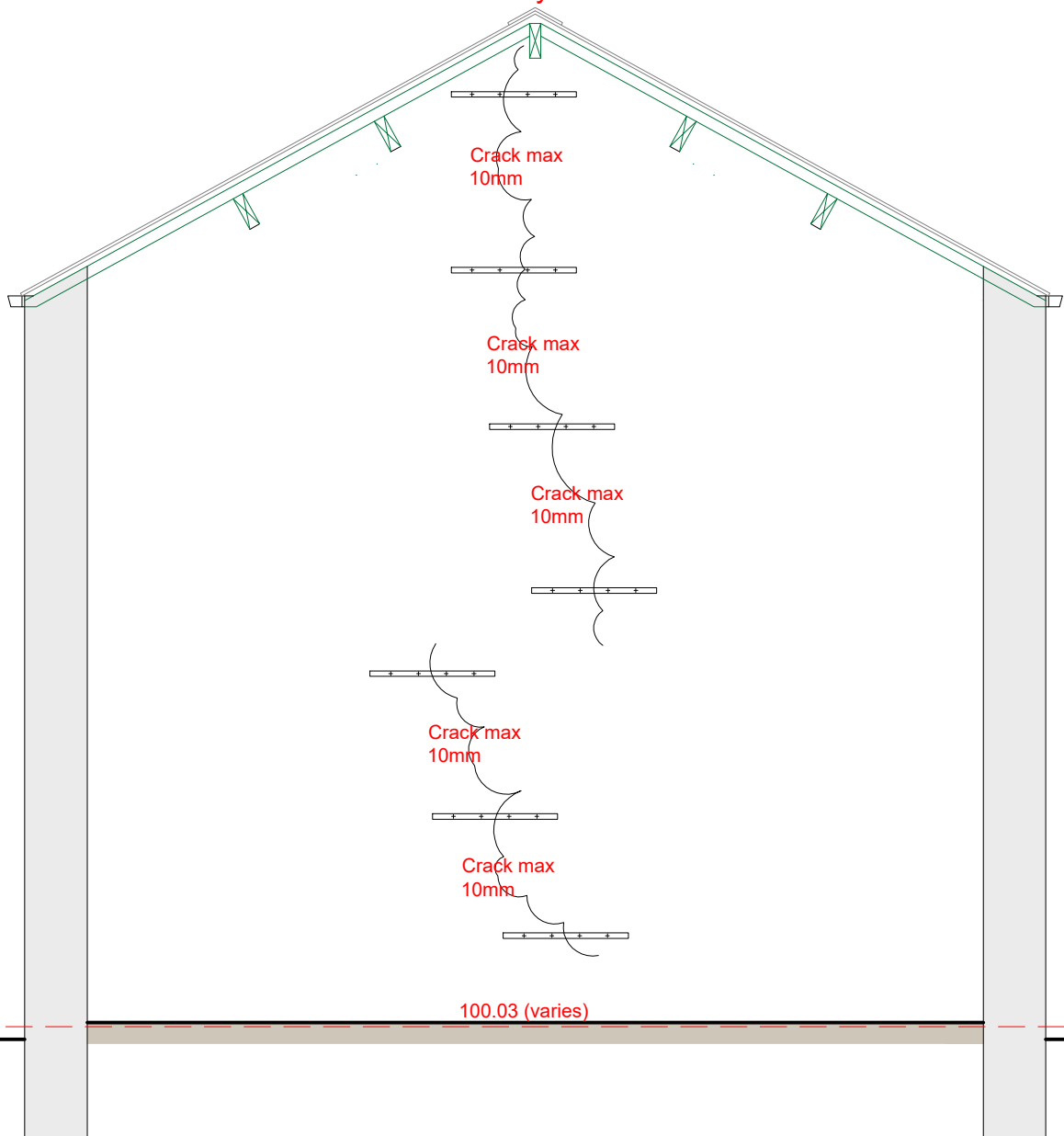
APPENDIX 1



APPENDIX 2



450 x 6 x 50mm flat galvanised
steel bar bolted / shot fixed to
stone over existing crack
flat bar every 1200mm max



INTERNAL PARTY WALL ELEVATION