

Mr & Mrs McLaughlin

Barn 2 at Cuckoo Farm, Higher Road, Longridge, PR3 2YX

Structural Condition Survey for Conversion to Dwelling



PSC-872 – B2

April 2024

Paul Snape Consulting
The Granary
Woodfold Farm
Crombleholme Fold
Goosnargh
Preston PR3 2ES

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Mr & Mrs McLaughlin
Structural Condition Survey
Barn 2 at Cuckoo Farm

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Mr & Mrs McLaughlin Structural Condition Survey Barn 2 at Cuckoo Farm

1.0 Terms of reference

Paul Snape was appointed by Mr & Mrs McLaughlin to carry out a visual structural inspection and produce a structural condition survey report for the existing barn to the south-east of the farmhouse at Cuckoo Farm, Longridge. A location plan and layout of the farm is included in Appendix A.

2.0 Purpose of the survey

It is proposed to convert the barn and the barn adjoining the farmhouse to the north to form one dwelling which will also include the existing farmhouse. The proposals are detailed on draft layouts prepared by PGB Architectural Services Ltd which are included in Appendix A. The visual structural survey is required to confirm the current condition of the building and to assess its suitability for conversion. There are photographic records of the building in Appendix B and these are referenced throughout the report.

The drainage and electrical systems of the building have not been inspected. These will be renewed as part of the proposals and detailed for Building Regulation purposes.

We have not inspected parts of the structure that are covered, unexposed or inaccessible. Hence, we are unable to report if such parts of the property are free from defect.

Our inspection was undertaken on 22nd March 2024 at which time the weather was fine and overcast.

The survey was undertaken by a Chartered Civil Engineer, Paul Snape BEng (Hons) CEng MICE

3.0 Description of Building

The building is a traditional stone barn and sits to the south-east of the farmhouse and its adjoining larger barn. The building has adjoining structures to the south and east which will be removed. The north and west elevations are rendered and painted whilst the south and east elevations are rendered. The roof is slate on timber rafters. The building has a solid concrete floor at ground level and a timber floor to the loft at the west end. The loft boarding at the east end is incomplete.

The building is one of two barns surveyed at the farm to assess their condition with regard to conversion for residential use.

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4.0 External Survey

North Elevation (Photos 1 to 3)

This elevation is built in random sandstone, which has been rendered and painted white. The wall is 450mm thick. The wall is plumb and reasonably rendered/painted. There are no signs of previous or ongoing movement with minor cracking only to the render. There are three openings at ground floor level, one window and two doors. This elevation has the benefit of guttering and downspouts which are in reasonable condition.

West Elevation (photos 4 to 7)

This gable elevation is built in random sandstone and the wall is 450mm thick. The wall is in reasonable condition. It is reasonably plumb and reasonably rendered/painted. There are no signs of previous or ongoing movement with minor loss of render only. There is one window/door opening at the upper floor level giving access to the loft.

East Elevation (Photos 8 to 10)

This gable elevation sits mainly within the adjoining building to the east and has a rendered wall, assumed to be 450mm thick random sandstone. From the area visible, the wall appears plumb and free from any previous or ongoing movement. The wall appears to suffer from damp caused by ingress of water from the adjacent roof.

South Elevation (photos 11 -15)

This elevation sits mainly within an adjoining lean-to structure (photos 12-15) with an area at the west end exposed (photo 11). The exposed area is rendered and painted. This elevation is plumb and free from previous or ongoing movement. There is one window opening to this elevation. This elevation has the benefit of guttering and downspouts which are in reasonable condition.

Roof (Photos – External – 1 to 3 and 12)

Viewed externally, the main barn roof appears in reasonable condition with no sign of major damage, slate/sheet loss, or deflection. The front (north facing) side of the roof is covered with slate. The rear (south facing) side is covered with metal or cement sheeting with rooflights. The internal inspection discussed below indicates that the barn has been re-covered including felt and the original timbers to the roof have been replaced with new rafters.

5.0 Internal Survey

(Photos 16 to 26)

The building is split into two sections with a 450mm sandstone wall at the centre. The west end of the building retains a timber boarded loft on timber joists, but the boards are incomplete at the east end. The west end has further timber beams and columns supporting the floor (photo 16). The floor joists at the east end appear older than those at the west end when compared in photos 22,23 and 18,19 & 21.

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The walls are all free from signs of movement but they exhibit areas of dampness. This dampness is also evident in the timbers (photos 19 and 20). There are signs of rot but no obvious signs of infestation.

The floors are solid concrete with no signs of previous or ongoing movement.

6.0 Suitability for Conversion and Method of Construction

It can be seen from the survey detailed above that this barn is generally in a reasonable condition structurally, with little or no sign of previous movement and no sign of ongoing movement. It is considered suitable for conversion to form part of a dwelling as set out in the proposed drawings. When converting barns, it is essential that the construction techniques and sequence are carefully considered.

Conversion will require the construction of an insulated inner leaf as indicated in the proposed layouts. This may comprise of a cavity with insulation plus a block inner leaf or a backing block to the stone with a cavity and a further block inner leaf. With this technique, care must be taken as the existing walls may be founded at a shallow depth. Trial holes should be dug to ascertain the actual depth. Ground floor levels should be set as high as possible, and we would recommend the use of a concrete floor slab with thickened edges along external walls and thickenings under new internal walls. The thickening can be taken down to a similar depth as the existing walls. We would recommend a minimum depth of 400mm for the thickenings. Levels lower than the existing foundations should be avoided and if this is necessary an Engineer should be consulted as underpinning may be required. The new inner leaf (and backing block if used) should be tied to the existing wall with suitable cavity and/or specialist ties.

As an alternative, the new internal leaf could be formed with SIP panels if this is felt appropriate. Any new internal walls could be formed in masonry, SIP panels or timber stud walls as appropriate.

It is recommended that the new internal skin is in place and the internal walls, ground and first floor are put in place prior to any works to the roof. The plans indicate that the central wall in the barn will be removed and partially replaced at first floor level. This should not affect the overall stability of the building given the thickness of the external walls and the narrow width of the building.

The existing rafters appear to be in good or reasonable condition with little sign of rot or infestation. Any timber retained should be assessed by a timber specialist, with regard to rot and infestation. All retained timber should be treated against rot/infestation and an indication of residual section given for structural purposes. All retained timber to be used structurally should be checked for structural adequacy. The timbers to the existing first floor do not appear suitable for retention.

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Given the good condition of the barn walls any new openings introduced or re-introduced in the barn should not affect the overall stability of the building but they should be assessed by a structural engineer.

It is noted that the proposals include the provision of a basement area in front of the farmhouse/main barn and to the west of this barn. Care must be taken to support the existing buildings when constructing this area and all necessary temporary works provided as well as permanent works to ensure the stability of the existing buildings.

The dwelling will require connection to a suitable foul and surface water system. Foul sewers are not in place at this location and a sewage treatment plant will be required meeting all current regulations in terms of treatment and outfall requirements. A sustainable surface water system will also be required for discharge to a watercourse or suitable surface water drain.

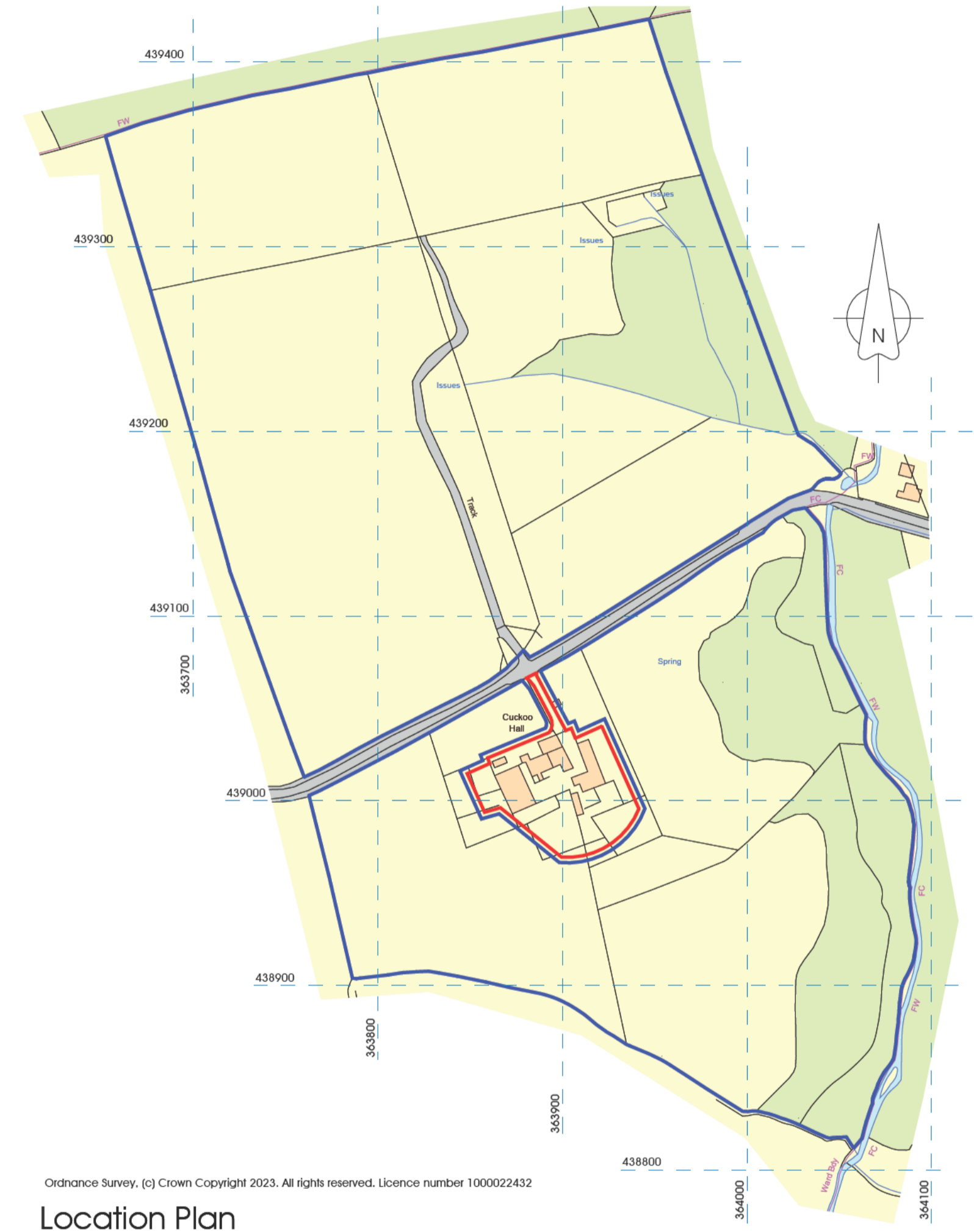
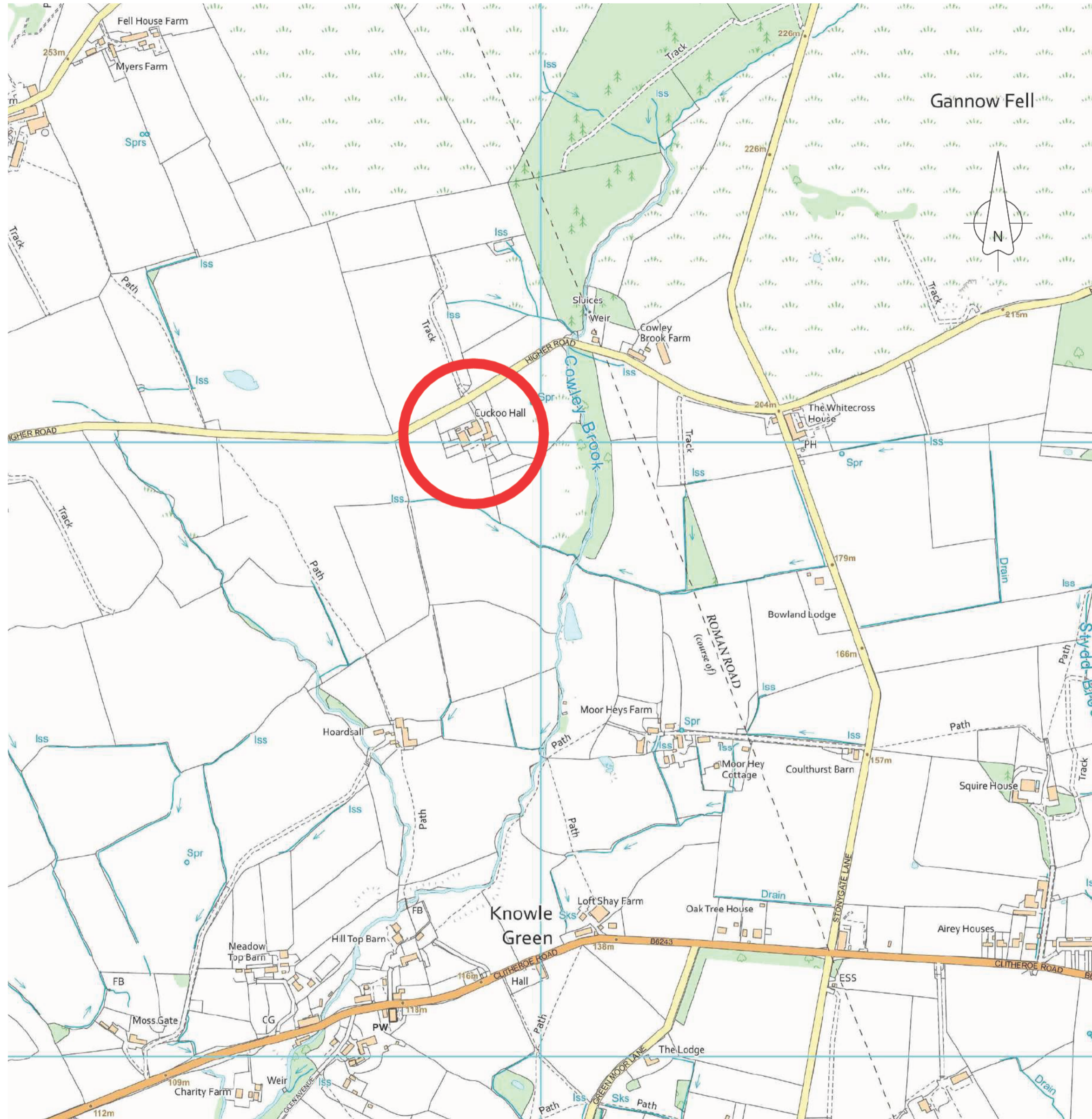
7.0 Conclusions

The barn is considered suitable for conversion to a dwelling. The construction should follow the guidance set out above and a structural engineer should be consulted with regard to the final layout for Building Regulation compliance.

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Barn 2 at Cuckoo Farm

Appendix A
Drawings

NOTES:
 1: The Contractor, Sub Contractor or specialist supplier are responsible for confirming site dimensions prior to fabrication 2: Any dimensional discrepancies are to be reported to the Architect immediately



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Location Plan

1 : 2500



DRAFT

Cuckoo Hall
 Higher Road,
 Longridge, PR3 2YX
 Mr & Mrs McLaughlin

Planning Application
 Location Plan

DATE January 2024

JOB NO 3375
 DRAWING NO PL-001
 REVISION
 SCALE 1 : 2500 @ A2

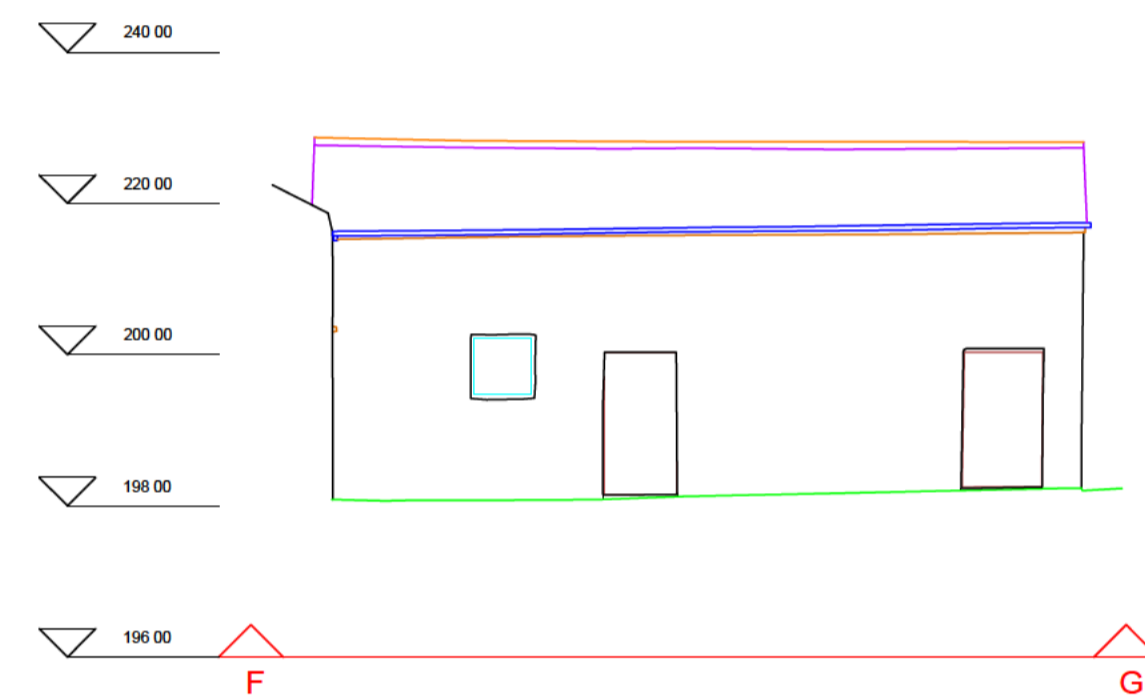
PGB
 ARCHITECTURAL
 SERVICES LTD

LEGEND: ELEVATIONS

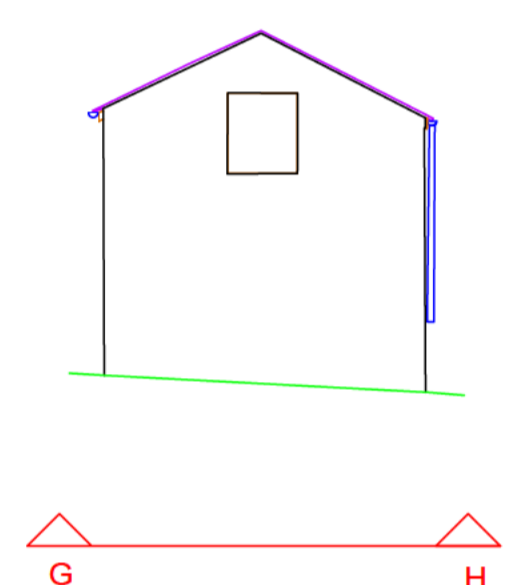
- BUILDING EDGE
- GLAZING
- WINDOW REVEALS
- DOORS
- GROUND LINE
- METAL WORK
- PLASTICS
- RAINWATER PIPES
- RIDGES
- ROOF
- SERVICES
- STONE
- TIMBER
- VEGETATION

LEGEND: FLOOR PLANS

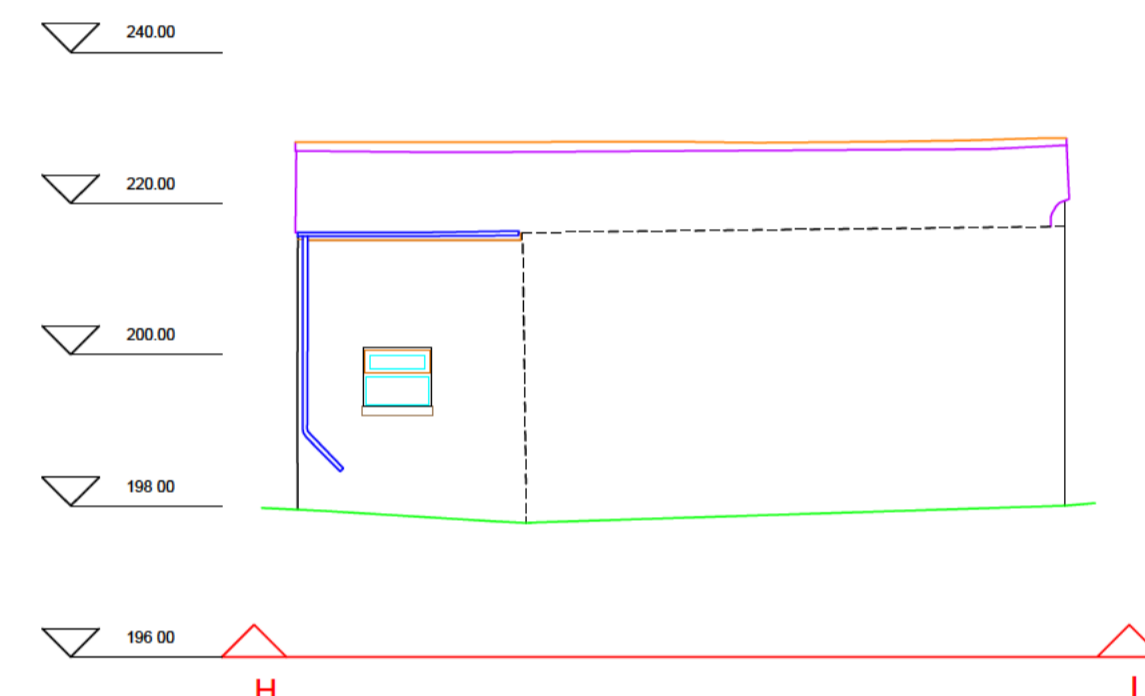
- EXTERNAL FOOTPRINT
- WALLS *widths checked where possible
- PARTITION WALLS
- CEILING LINES
- BEAMS
- TRUSSES & LINTELS
- FALSE CEILING LINE
- SERVICES
- FLOOR LINES
- STRUCTURAL CEILING HEIGHT SCH 4.00
- FALSE CEILING HEIGHT SCH 3.00
- CEILING HIGH POINT HP 4.00
- CEILING LOW POINT LP 2.00
- FINISHED FLOOR LEVEL $\pm 0 = 100.00$
- BEAM HEIGHT BH 5.00
- DOOR HEIGHT DH 2.00
- ARCH HEIGHT TA 2.00
SP 1.00
- FLOOR TO CILL FC 0.00
- CILL TO LINTEL CH 0.00
- WINDOW *glazing thickness are indicative
- DOOR *frames not measured
- SLIDING DOOR
- STAIRS
- SINK
- OVEN
- CUPBOARDS FURNITURE
- WC
- WASH BASIN
- SHOWER
- BATH
- URINAL



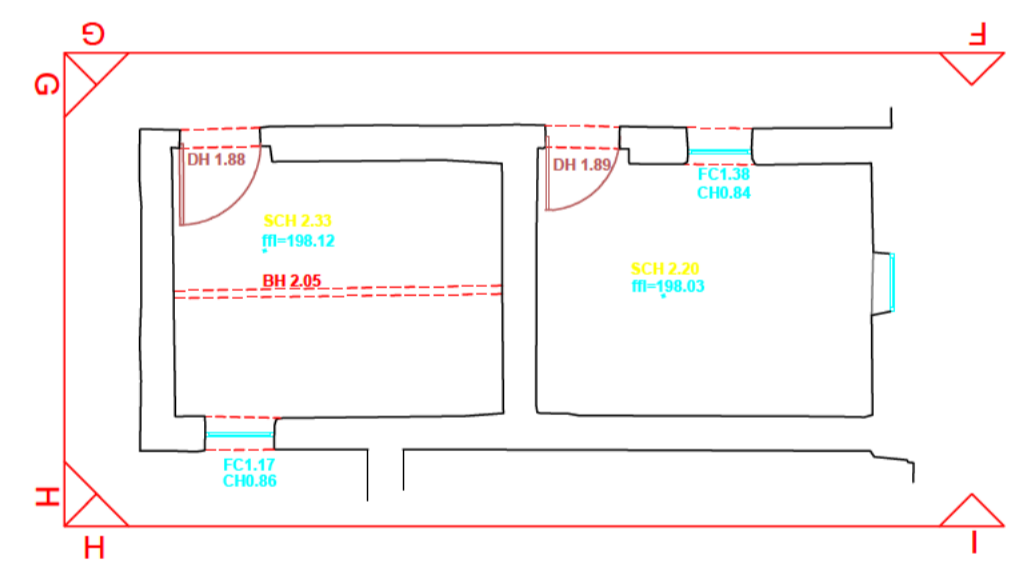
FRONT ELEVATION



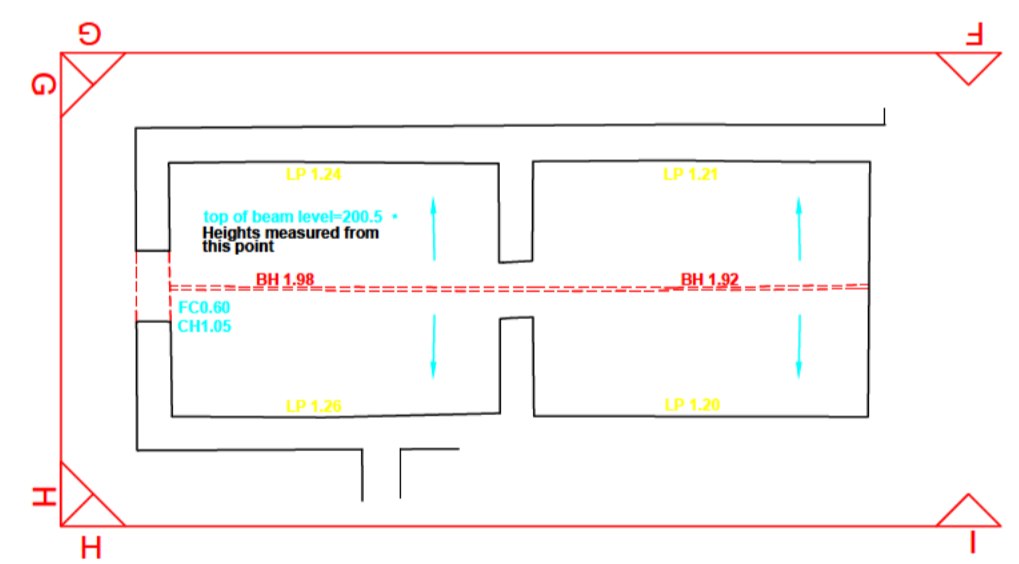
RIGHT ELEVATION



REAR ELEVATION



GROUND FLOOR



FIRST FLOOR

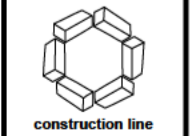
*Some columns/beams may be obscured by plaster / fire boarding / concrete / casing. Therefore the true structural position may not be shown.

*Some site areas may be inaccessible. See highlighted areas for further details.

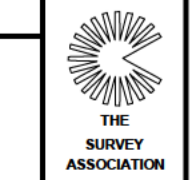
ASSUMED
This elements and areas may be shown as assumed, with dashed lines. Where possible.



Sitesurveying Services Ltd
Unit 9
Twin Brook Business Park
Twin Brook Road
Catterick GU7 1QX
Tel: 01200 436320
surveyors@sitesurvey.co.uk



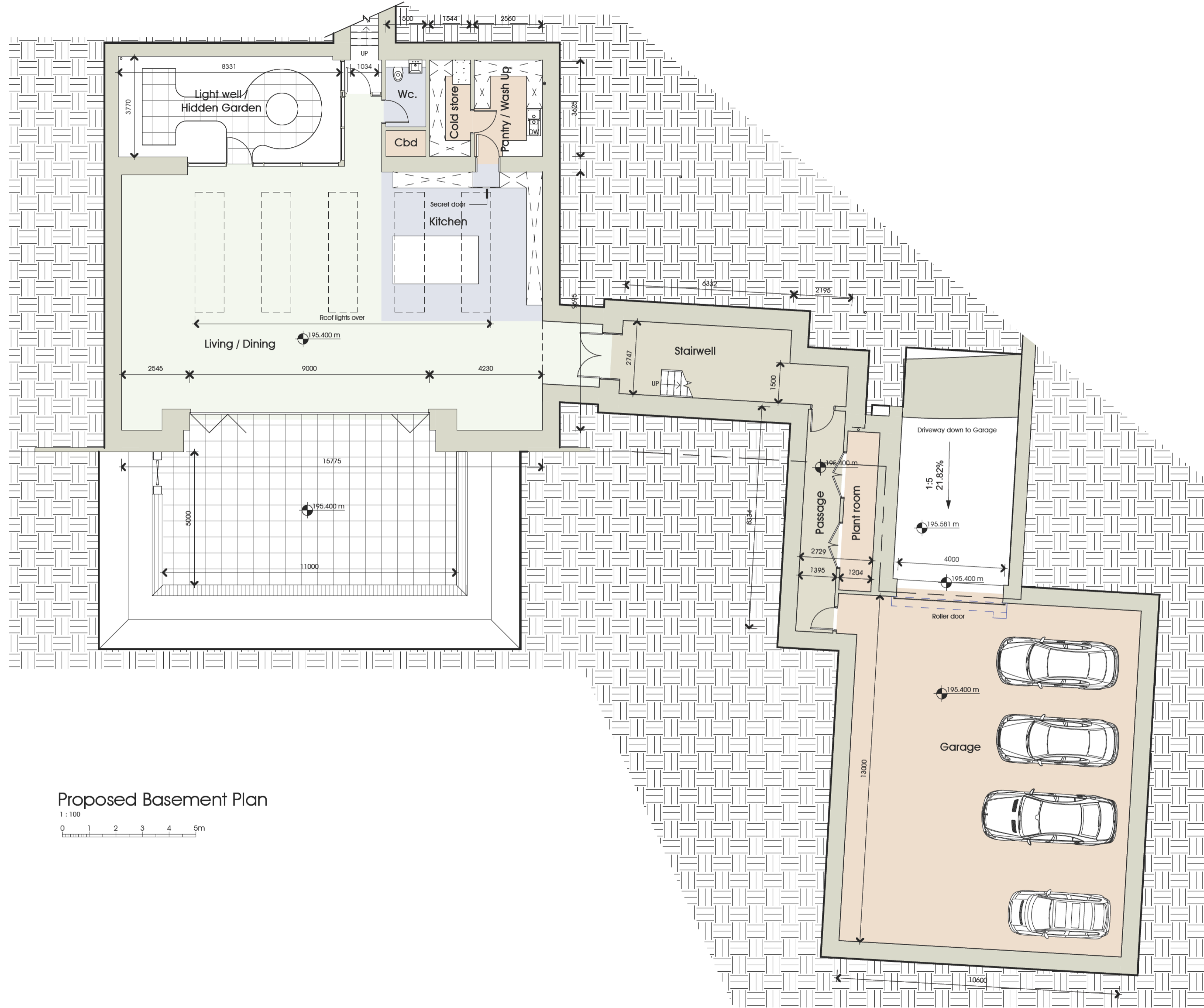
Client: Peter Damber Architects
Location: Cuckoo Hall, Higher Lane, Longridge, PR3 2YX



Notes:

Drawing Number: ss-9525 Revision: 0
Drawn By: PB Checked By: MC
Date: 10/09/21 Scale: 1:100 @ A1 Sheet: 3

NOTES:
 1: The Contractor, Sub Contractor or specialist supplier are responsible for confirming site dimensions prior to fabrication 2: Any dimensional discrepancies are to be reported to the Architect immediately



Proposed Basement Plan
 1 : 100
 0 1 2 3 4 5m

DRAFT

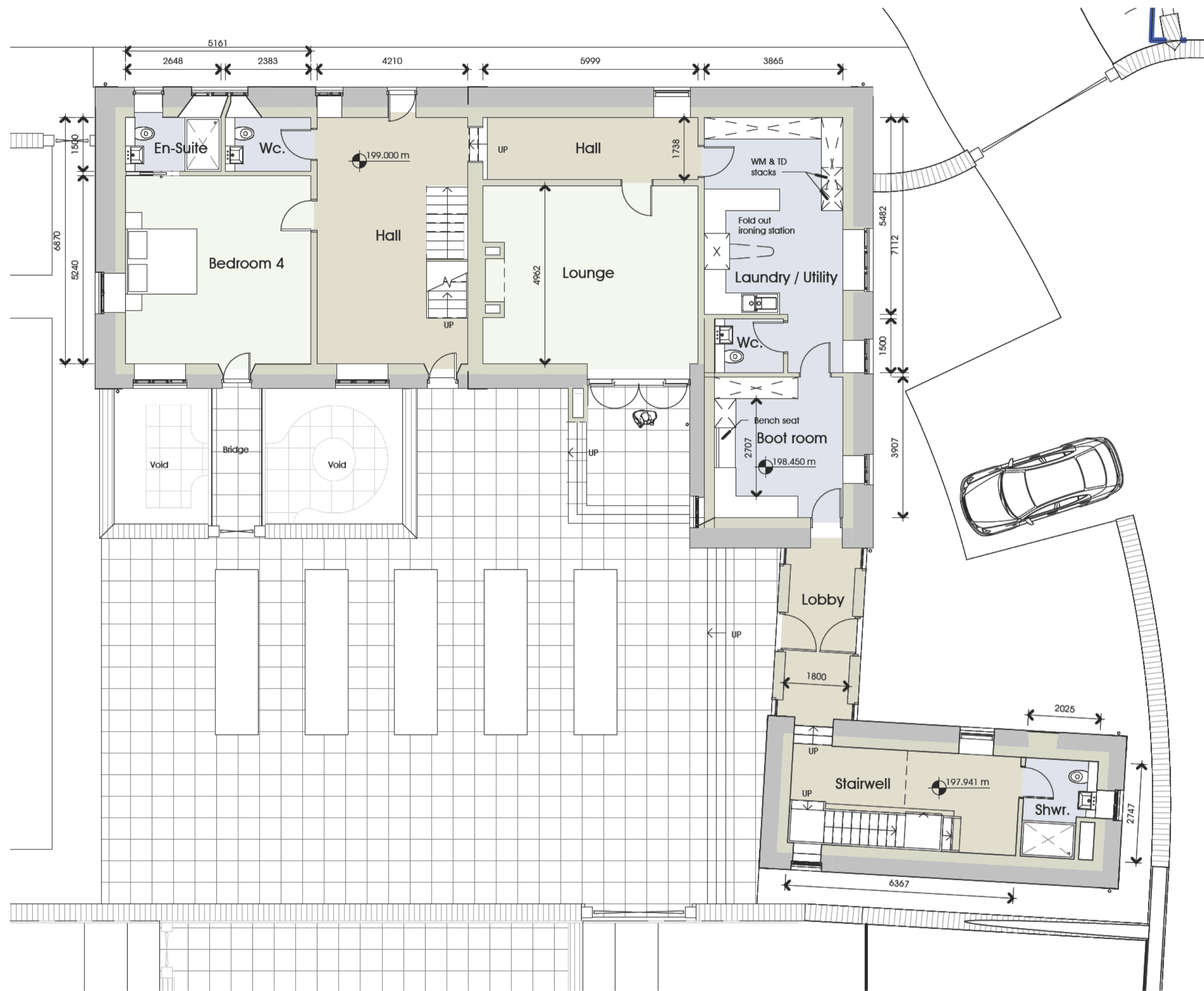
Cuckoo Hall
 Higher Road,
 Longridge, PR3 2YX
 Mr & Mrs McLaughlin

Planning Application
 Proposed Basement Plan
 DATE January 2024

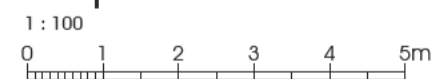
JOB NO 3375
 DRAWING NO PL-003
 REVISION
 SCALE 1 : 100 @ A2



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Proposed Ground Floor Plan



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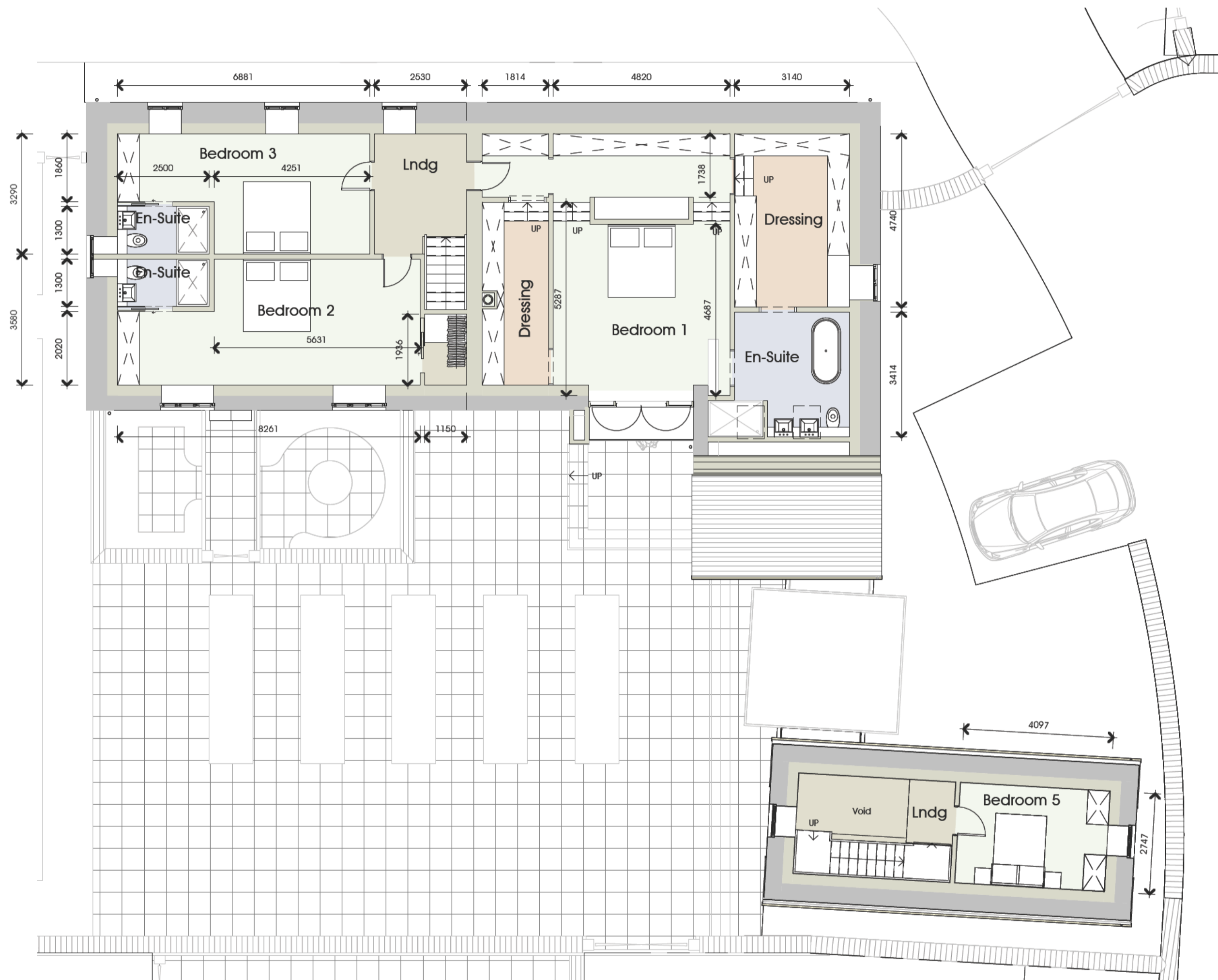
Planning Application
 Proposed Ground Floor Plan

DATE January 2024

JOB NO 3375
 DRAWING NO PL-004
 REVISION
 SCALE 1 : 100 @ A2

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1 FL Proposed

1 : 100



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Cuckoo Hall
Higher Road,
Longridge, PR3 2YX
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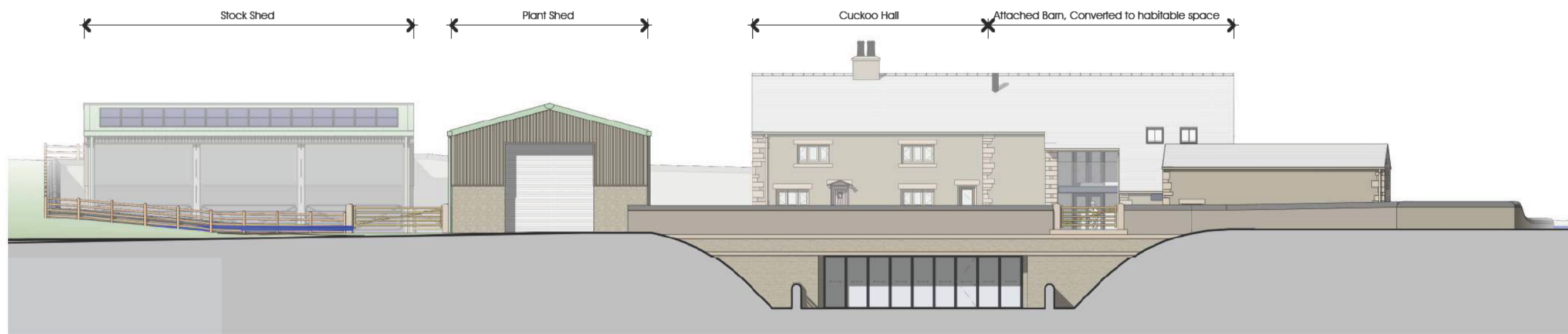
Planning Application
Proposed First Floor Plan

DATE January 2024

JOB NO 3375
DRAWING NO PL-005
REVISION
SCALE 1 : 100 @ A2

PGB
ARCHITECTURAL
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NOTES:
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GA Elevation, Proposed South

1 : 200
 0 1 5 10m



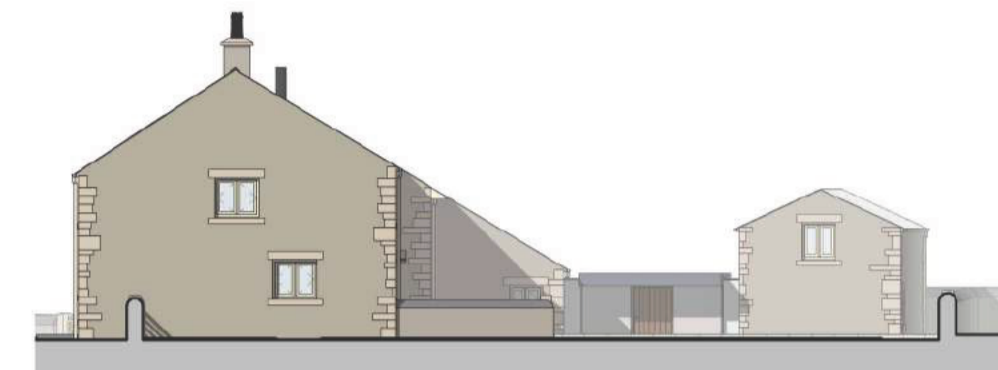
GA Elevation, Proposed North

1 : 200



GA Elevation, Proposed East

1 : 200



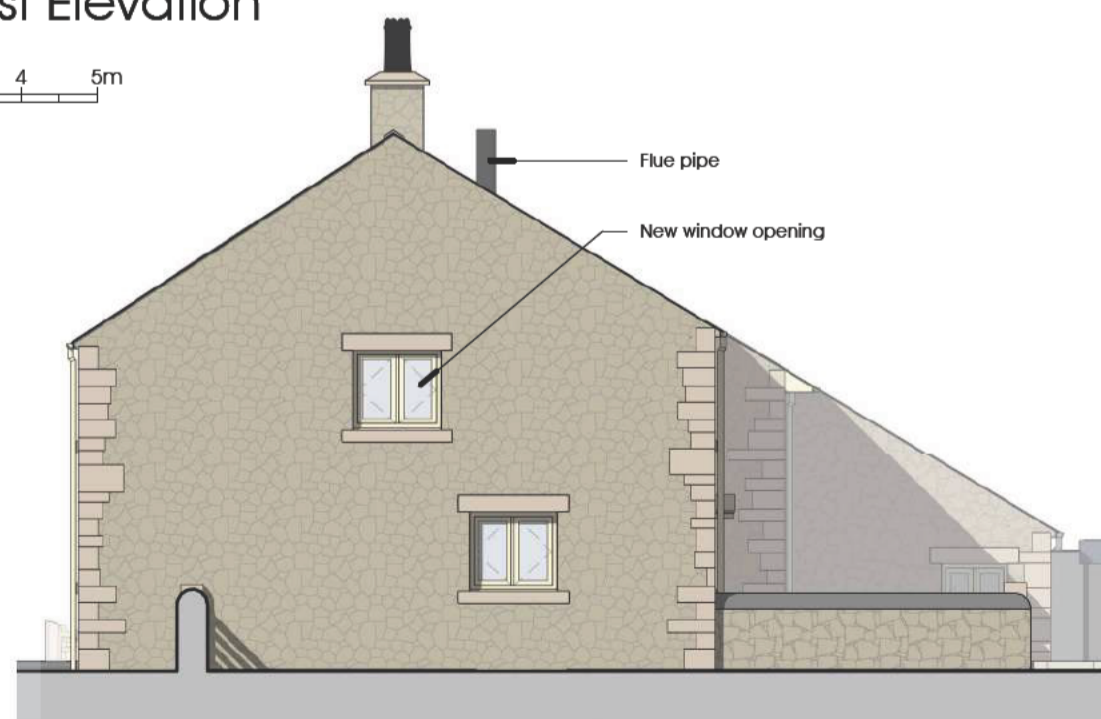
GA Elevation, Proposed West

1 : 200



Dwelling, East Elevation

1 : 100
 0 1 2 3 4 5m



Dwelling, West Elevation

1 : 100



Dwelling, South Elevation

1 : 100



Dwelling, North Elevation

1 : 100

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Cuckoo Hall
 Higher Road,
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Planning Application
 Proposed Elevations 01

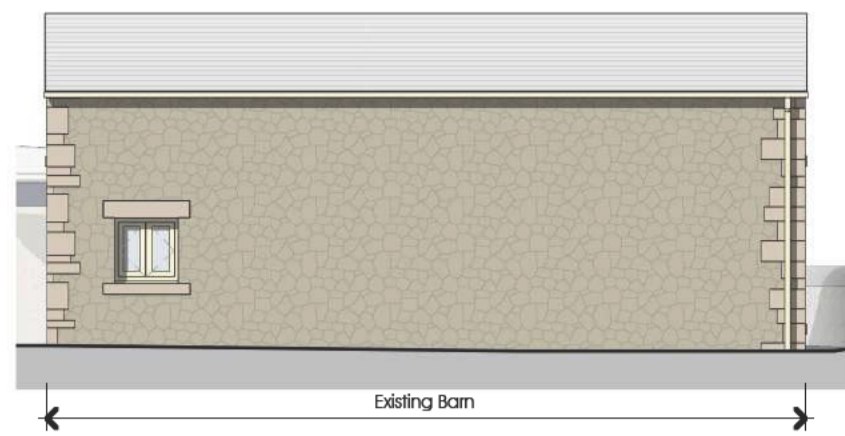
DATE January 2024

JOB NO 3375
 DRAWING NO PL-006

REVISION
 SCALE As indicated @ A2

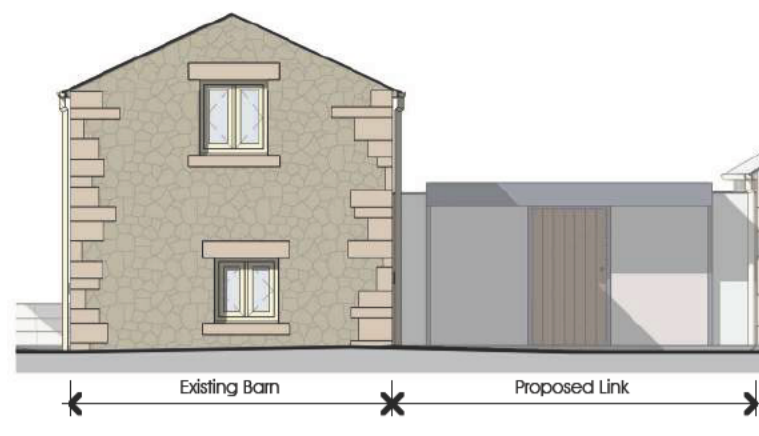
PGB
 ARCHITECTURAL
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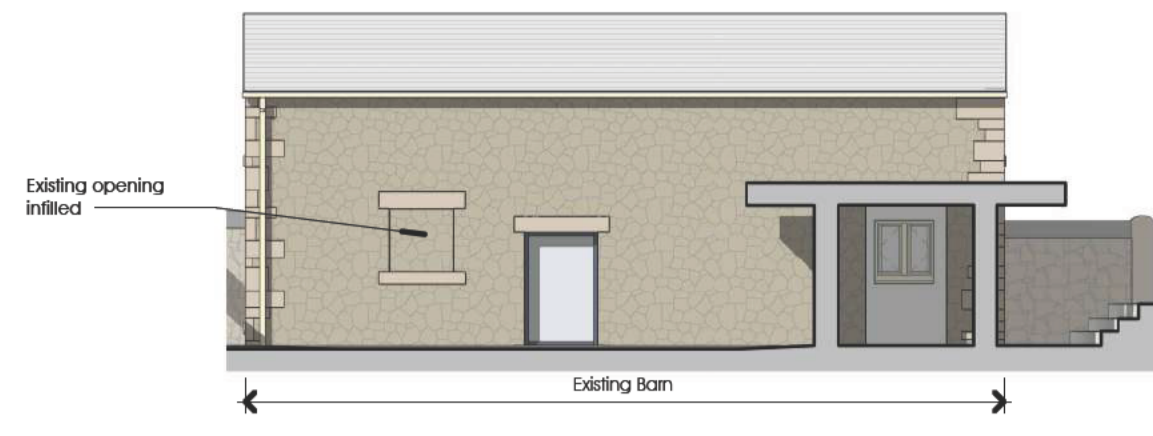
Barn, South Elevation

1 : 100



Barn, East Elevation

1 : 100



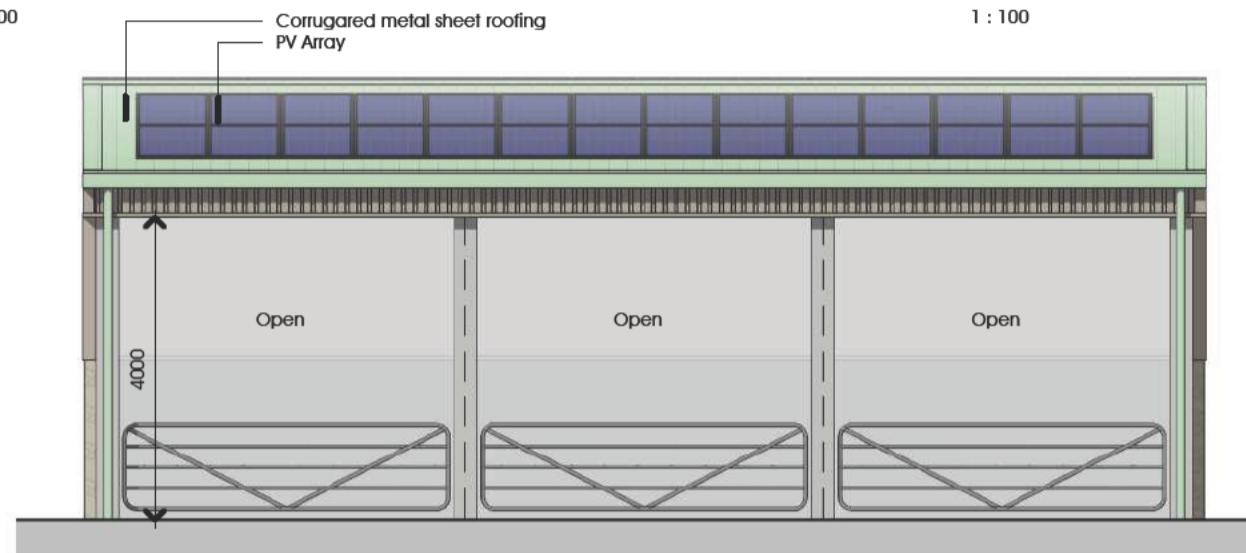
Barn, North Elevation,

1 : 100



Barn, West Elevation

1 : 100



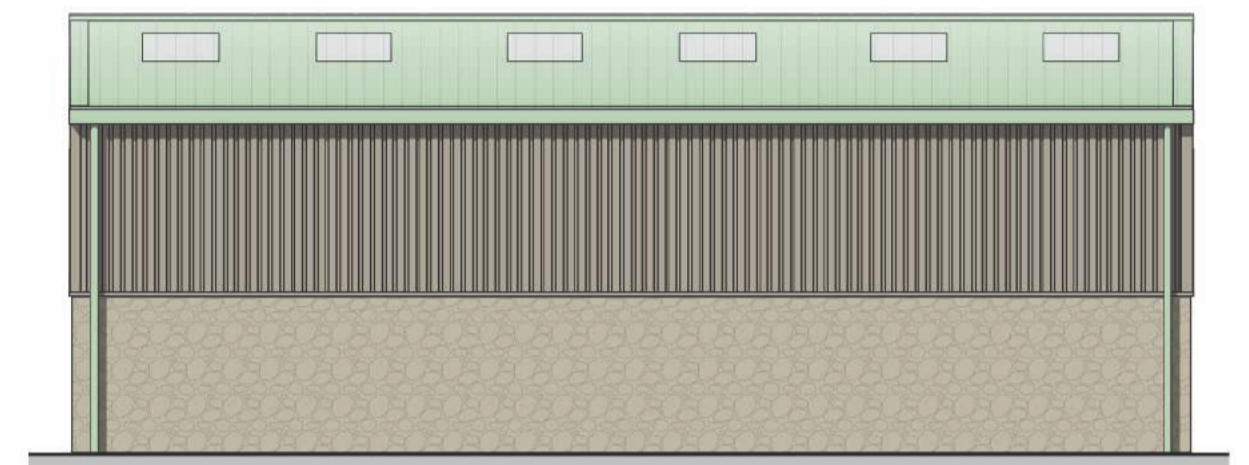
Proposed Stock Shed, South Elevation

1 : 100



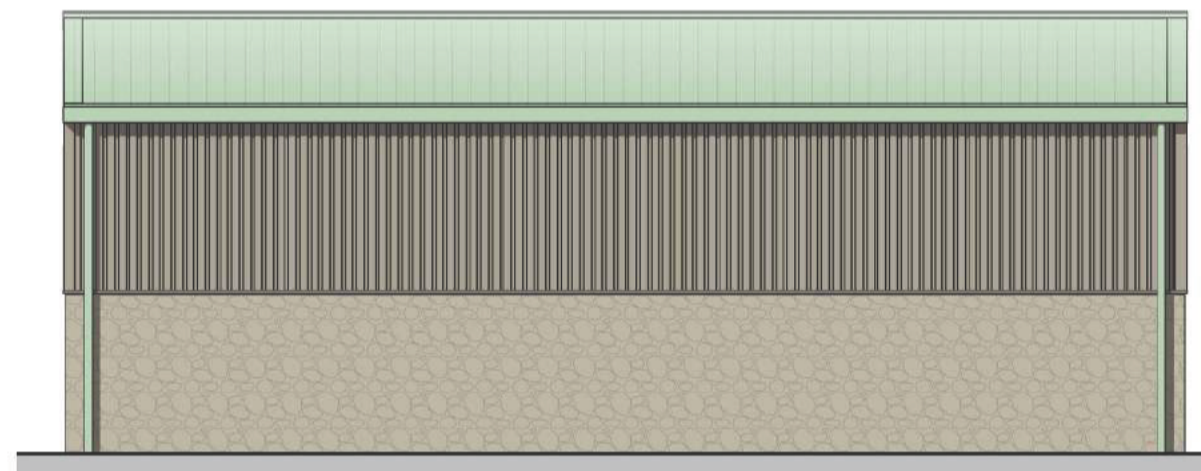
Proposed Equipment Shed, South Elevation

1 : 100



Proposed Equipment Shed, East Elevation

1 : 100



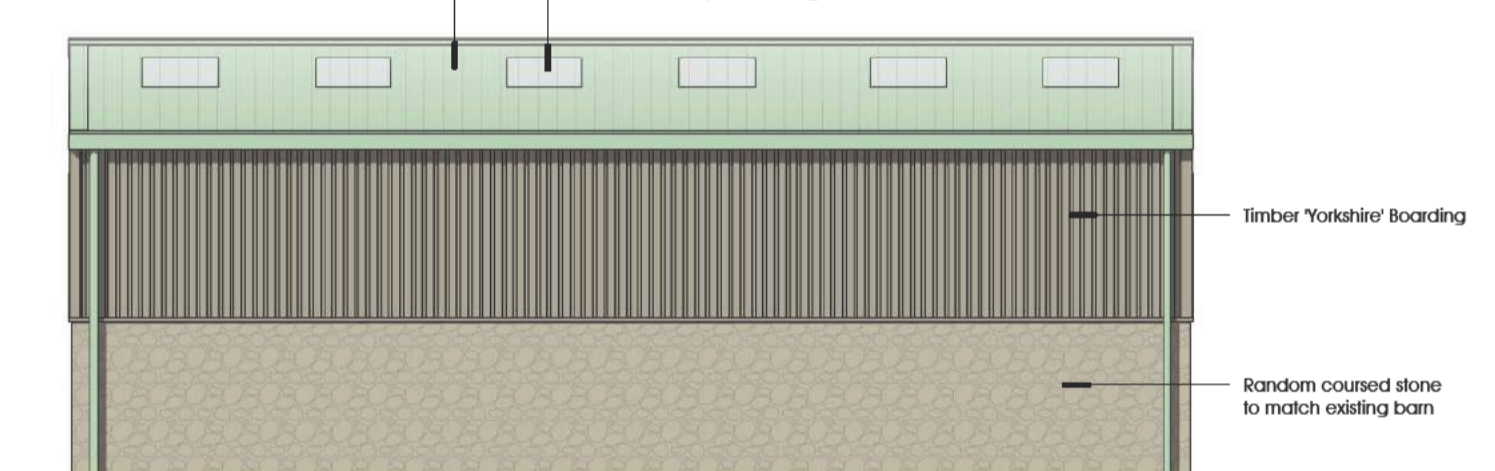
Proposed Stock Shed, North Elevation

1 : 100



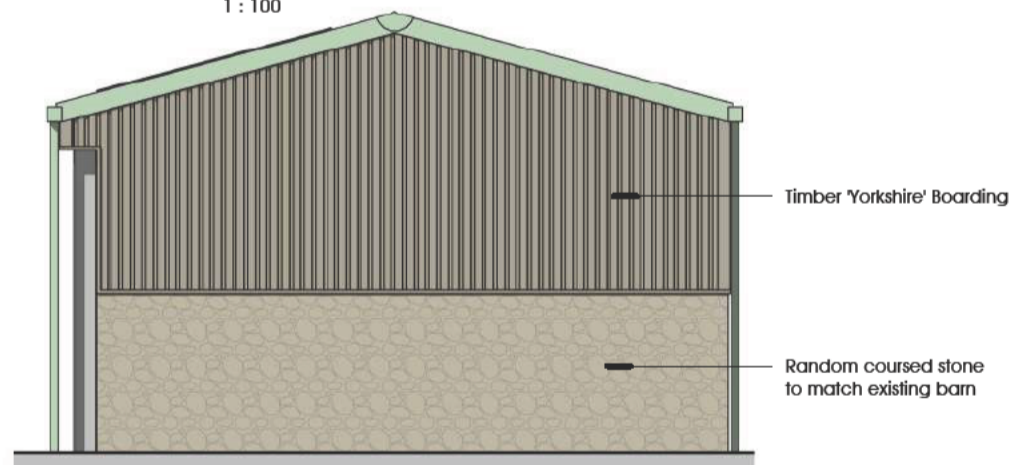
Proposed Equipment Shed, North Elevation

1 : 100



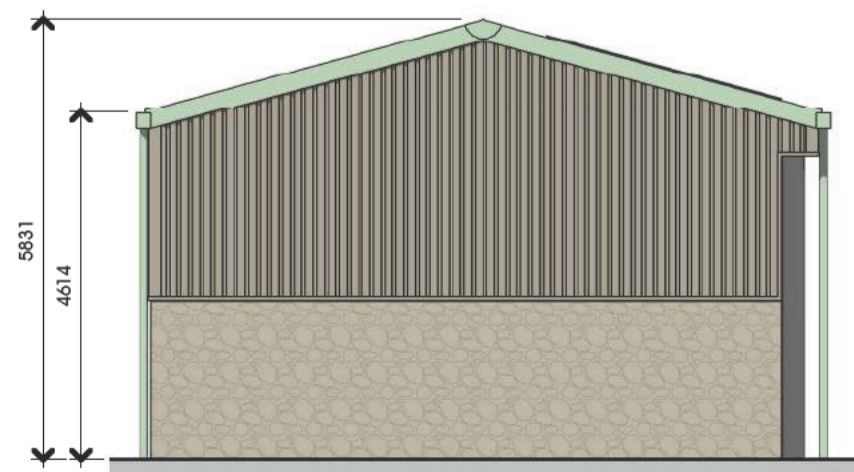
Proposed Equipment Shed, West Elevation

1 : 100



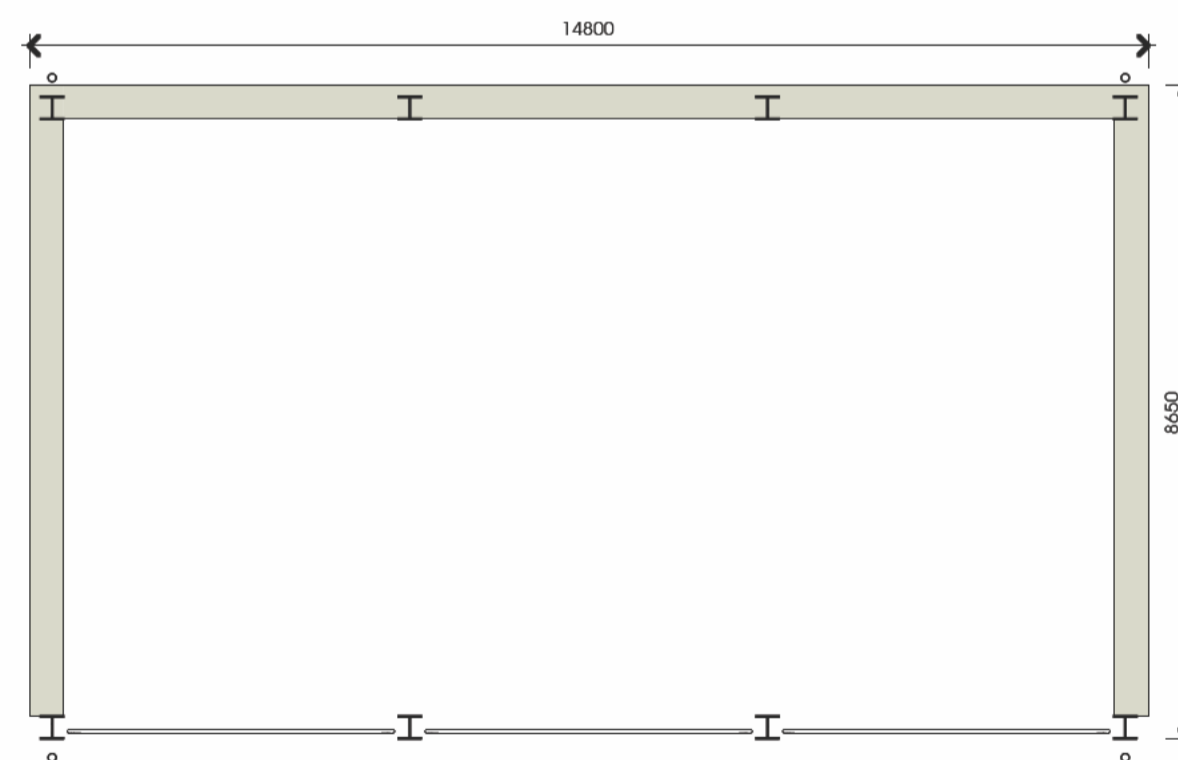
Proposed Stock Shed, East Elevation

1 : 100



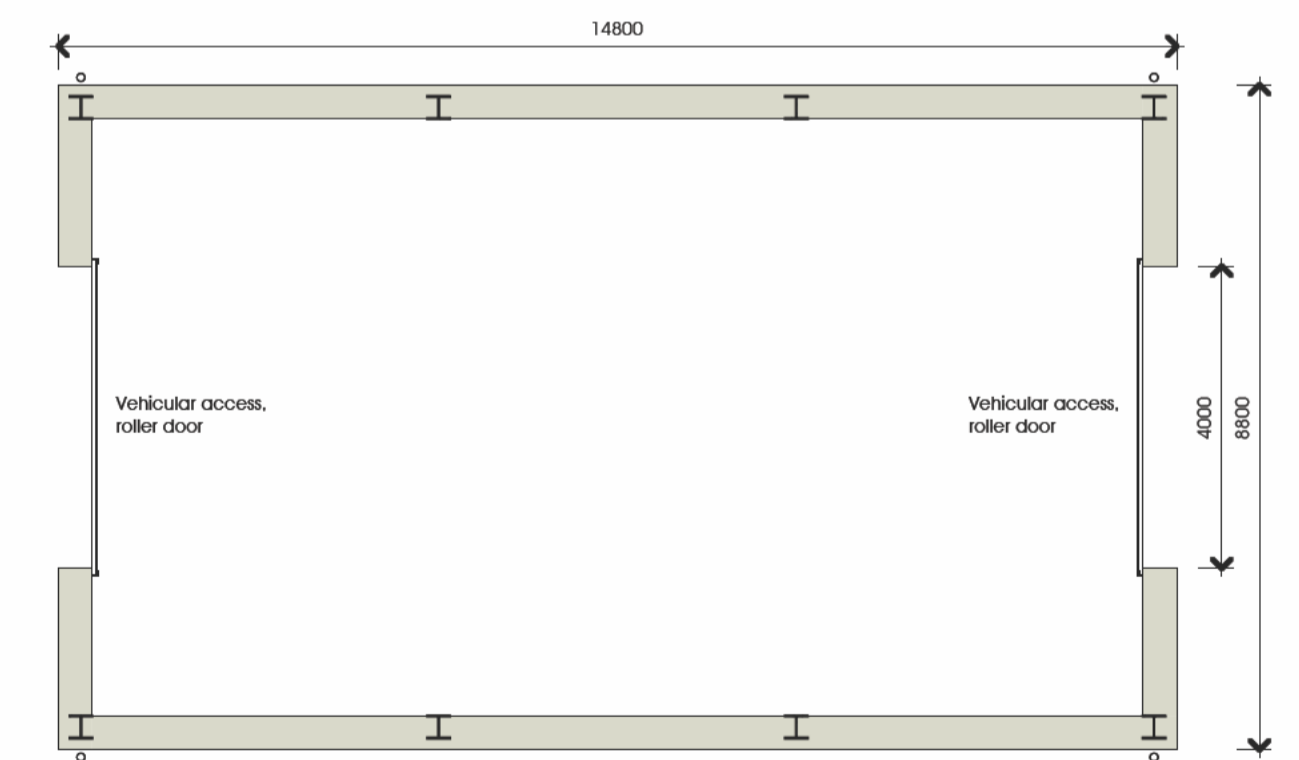
Proposed Stock Shed, West Elevation

1 : 100



Proposed Stock Shed Floor Plan

1 : 100



Proposed Equipment Shed Floor Plan

1 : 100

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Cuckoo Hall
 Higher Road,
 Longridge, PR3 2YX
 Mr & Mrs McLaughlin

Planning Application
 Proposed Elevations 02

DATE January 2024

JOB NO 3375
 DRAWING NO PL-007
 REVISION
 SCALE 1 : 100 @ A2

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Barn 2 at Cuckoo Farm

Appendix B
Photographs



Photo 1 - North Elevation



Photo 2 – North elevation roof



Photo 3- North Elevation and roof



Photo 4 – West elevation



Photo 5 – West elevation



Photo 6 – West elevation



Photo 7 – West elevation



Photo 8 – East elevation



Photo 9 – East elevation



Photo 10 – East elevation



Photo 11 – South elevation



Photo 12 – South elevation

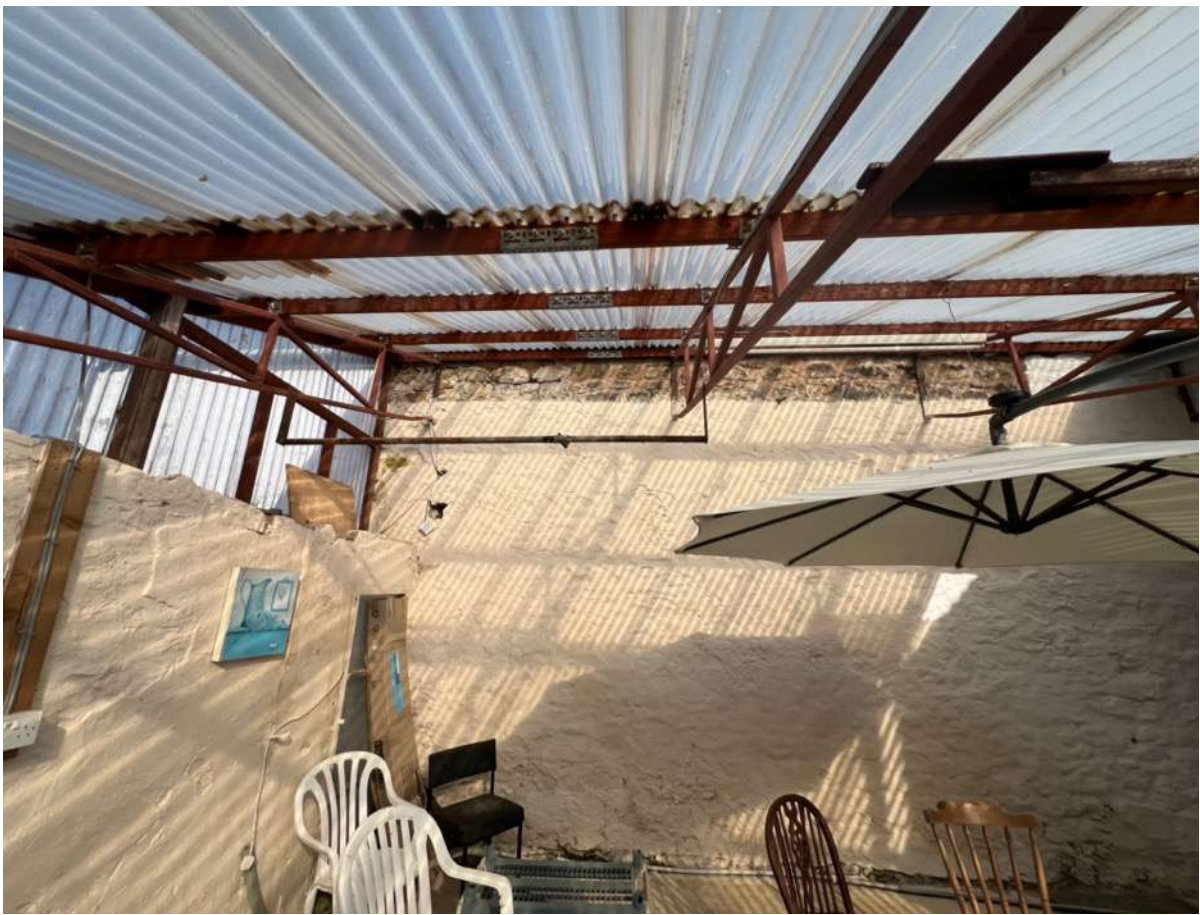


Photo 13 – South elevation



Photo 14 - South elevation



Photo 15 - South elevation



Photo 16 – Internal west end



Photo 17 – Internal west end



Photo 18 – Internal west end



Photo 19 – Internal west end



Photo 20 – Internal west end



Photo 21 – Internal west end



Photo 22 – First floor and roof structure at east end



Photo 23 – Internal east end



Photo 24 - First floor and roof structure at east end



Photo 25 – Timber lintels to mid opening in loft



Photo 26 - Timber lintels to mid opening in loft

