Mr & Mrs McLaughlin

Barn 1 at Cuckoo Farm, Higher Road, Longridge, PR3 2YX

Structural Condition Survey for Conversion to Dwelling

PSC-872 – B1

April 2024

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

[redacted]

Mr & Mrs McLaughlin
Structural Condition Survey
Barn 1 at Cuckoo Farm

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Mr & Mrs McLaughlin
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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 adjoining 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 a further barn to the south 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 with a single storey outrigger to the front (south) elevation. The barn is adjoined to the existing farmhouse and sits to the east of the house. The main section of the barn comprises a shippon to the ground floor area with a storage loft above. The roof is tie and slate on timber rafters, purlins and lightweight steel trusses. The building has a solid floor at ground level and a timber floor to the loft. The outrigger to the front is a single-story building with concrete flooring. There is an existing timber building to the rear of the barn which is to be removed.

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

4.0 External Survey

South Elevation (Photos 1 to 8 and 46)
This elevation is built in random sandstone, which has been painted white, and the wall is 470mm to 500mm thick. There is a single storey outrigger at the east end (photo 1) and there are signs of a former extension adjacent to the house which has been removed (photo 7). All the walls are in reasonable condition. They are plumb, reasonably pointed/painted and there are no signs of previous or ongoing movement. There is some localised damage where the previous building was removed but this is minimal in area (1 to 2 m^2). There are three openings at ground floor level, one window and door to the main section of the barn and a large sliding doorway to the outrigger. The recessed area with shelves immediately to the east of the farmhouse (photo 7) is probably a former doorway. The door and window to the main section of the barn is located in a recessed area which is likely to have been a former traditional large barn door. This has been infilled with brickwork as evidenced in photo 46. This elevation has the benefit of guttering and downspouts which are in reasonable condition to the outrigger but in poor condition or missing to the main roof (photo 1).

East Elevation (photos 9 to 12 & 16)
This gable elevation is built in random sandstone and the wall is 500mm thick. The wall is in reasonable condition. It is reasonably plumb and reasonably pointed/painted. There are no signs of previous or ongoing movement. There are three window openings at ground floor level with a further opening to the loft or feed hopper above (photo 9). This section of the elevation has a short section of guttering and a downspout serving the outrigger roof (photo 16).

North Elevation (Photos 13 to 15)
The rear elevation is mainly within an existing timber building as can be seen in the photos. The wall is 500mm thick and again built in random sandstone which has been painted. The wall is plumb, reasonably well pointed and free from signs of movement. There is a doorway with an adjacent window opening giving access to the main section of the barn art ground floor level. This elevation has the benefit of guttering and downspouts which are in reasonable condition.

West Elevation
This gable elevation forms the adjoining wall with the house and could not be inspected within the house as this was not accessible due to the presence of asbestos. This gable is discussed below in the internal inspections.

Roof (Photos – External – 1, 3, 4, 5 & 15)
Viewed externally, the main barn roof appears in reasonable condition with no sign of major damage, slate/tile loss, or deflection. The front (south facing) side of the roof has been recovered with tiles rather than slate. The rear (north facing) side is covered with slate. The internal inspection discussed below indicates that the main barn has been re-covered including felt and the original timber roof trusses have been replaced with lightweight steel trusses at some point.

5.0 Internal Survey

Main Barn (Photos 22 to 45)

This section of the building has a shippon areas at ground floor level with a loft above. The building shows no sign of previous or ongoing movement to walls or floors. The ground floor is solid concrete (photos 33 & 34). The loft floor is of a timber construction supported by steel beams (photo 28 to 31). There is a feed hopper located against the east gable (photo 36). Photo 31 shows a small room formed in the north-east corner and photo 32 shows a toilet area formed in the north-west corner.

Photos 26 and 42 show the west gable which forms the adjoining wall to the farmhouse. This is in good condition and well pointed at the higher levels with render to the ground floor area. Photos 45 and 46 show the area of the former large barn door which has been infilled with brick to form the smaller door and window. The original timber can be seen in photo 45 with the brickwork below.

The upper loft is constructed in timber and appeared free of rot and infestation. The steel beams supporting this were heavily rusted but did appear to be under stress or exhibit excessive deflection.

As noted above, the roof to the barn has been recovered and has felt in place. The felt is damaged in several areas and there are signs of water ingress (photo 43). The roof structure appears to be a replacement structure consisting of lightweight steel trusses and timber purlins and rafters. The structure appears to be in a reasonable condition with no sign of excessive deflection or movement. The timber purlins and rafters appear in reasonable condition with no clear signs of extensive rot or infestation. As noted, there are areas of water ingress which may have damaged the timber.

Outrigger (photo 17 to 21)

This building has a solid concrete floor and houses the base of a feed hopper. This area shows no sign of previous or ongoing movement to walls or floors. The roof has timber purlins and rafters which appear to be a replacement structure rather than original (photo 18). The roof has been felted but this is damaged (photo 18). The timber does not exhibit obvious signs of rot or infestation.

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 insulted 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. This will add stability to the exiting walls. The barn appears to have been re-roofed to a reasonable standard and works to this area will be limited.

The existing steel trusses, purlins and raftersappear 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. Similarly, any retained steel should be thoroughly cleaned and re-painted to protect against corrosion.

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 and 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.

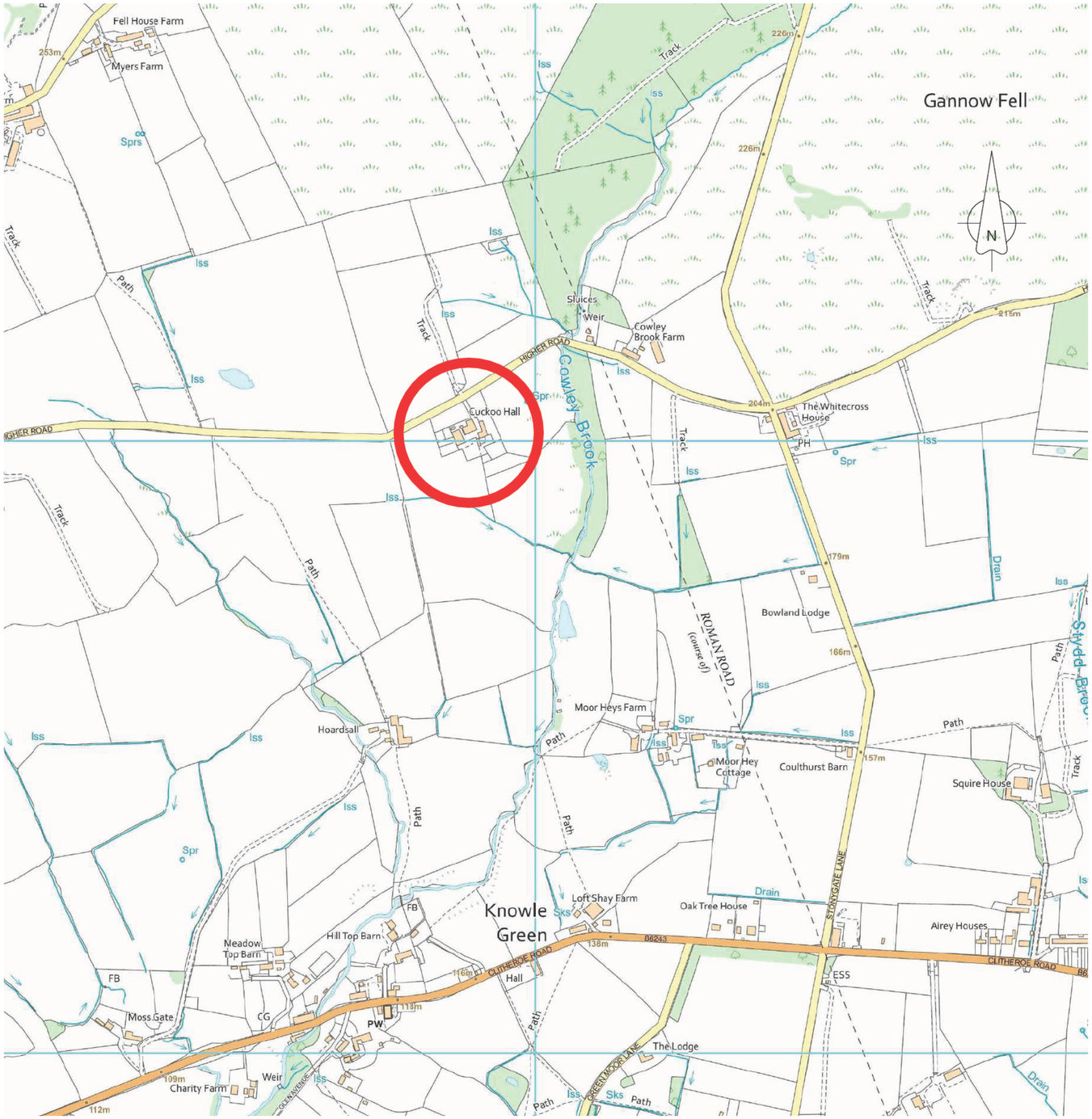
7.0 Conclusions

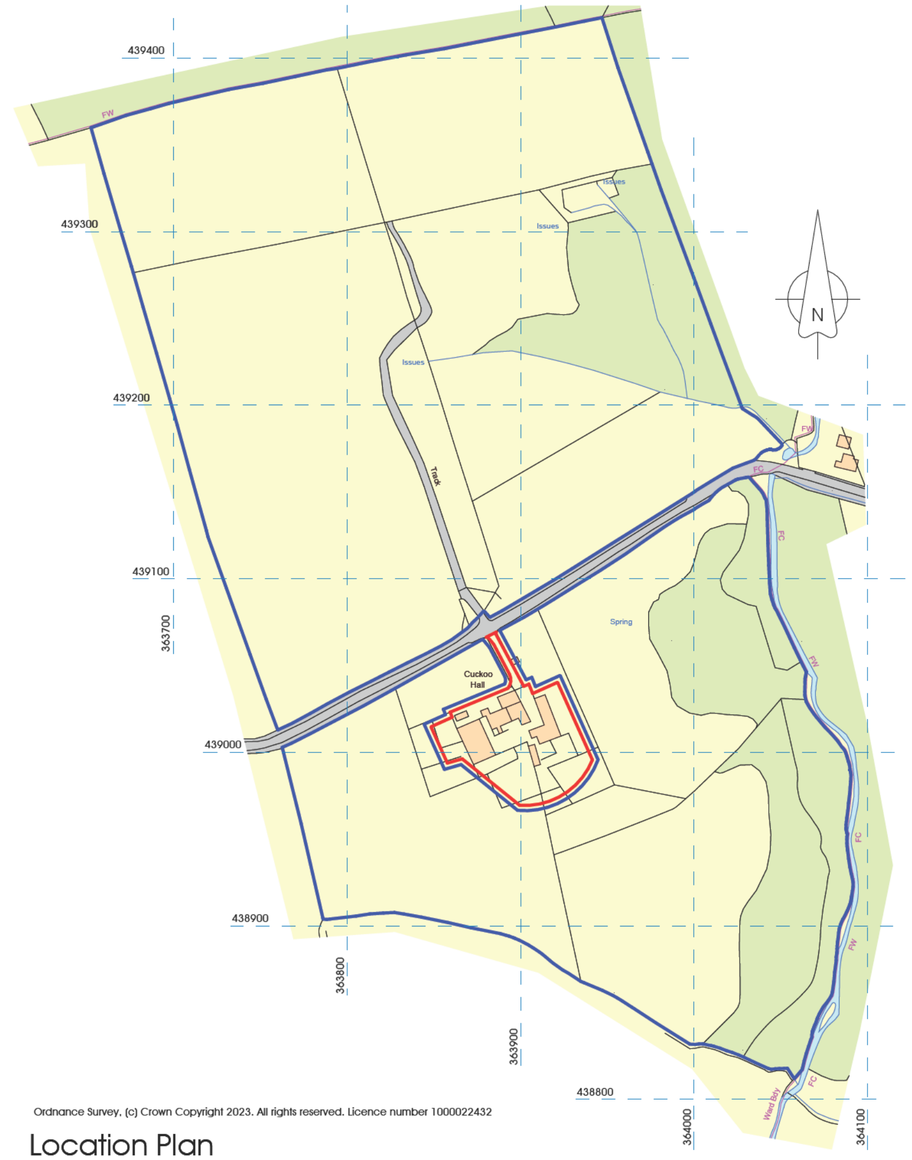
The barn is considered suitable for conversion to a dwelling. The construction should follow the guidance set out above and a structural engineer should be consulted with regard to the final layout for Building Regulation compliance.

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





Location Plan

1 : 2500

0 10 50 100m

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 Lily Cottage, 12 Glen Avenue, Knowle Green, Preston PR3 2ZQ
07866 366565 01254 820092 info@pgb-arch.com pgb-arch.com

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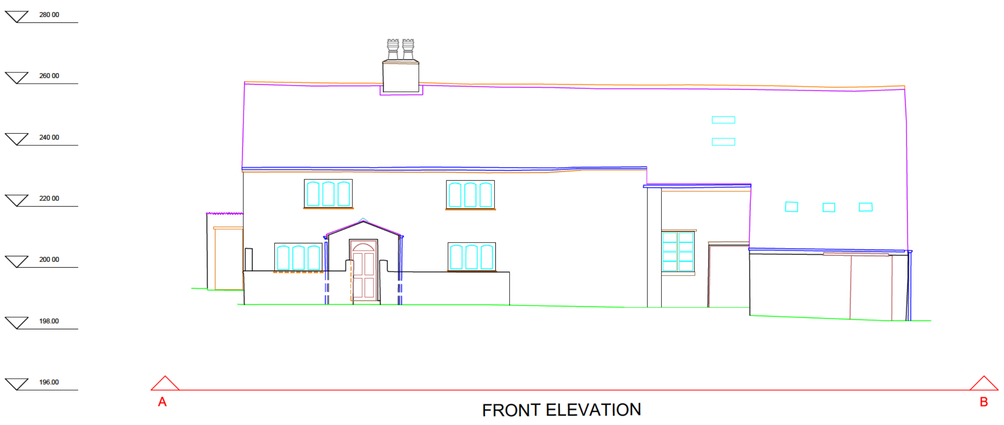
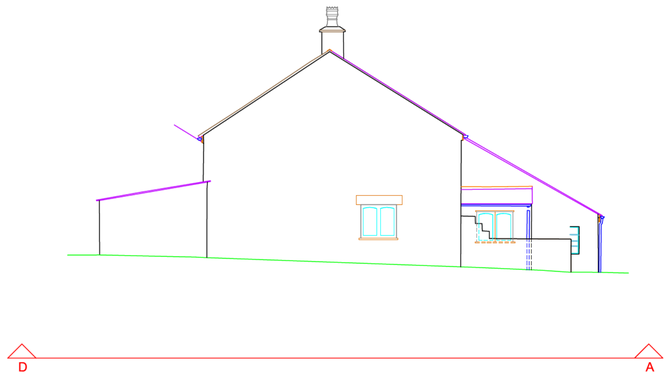
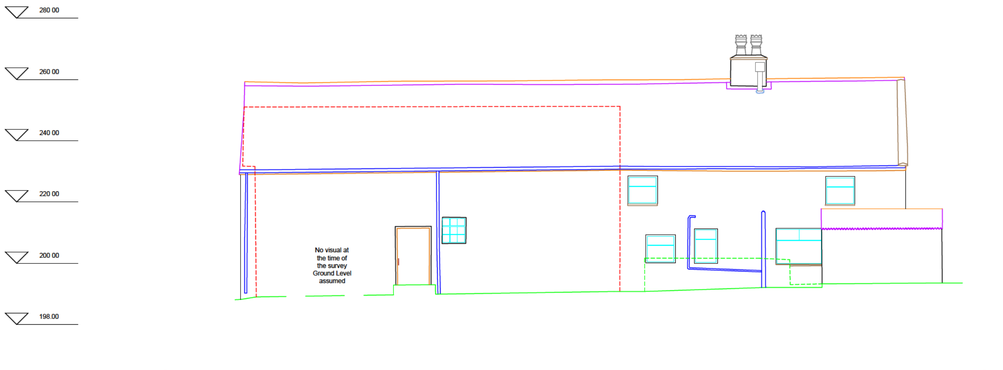


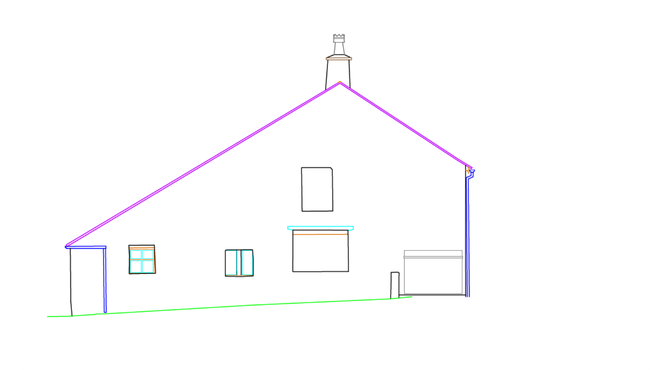
FRONT ELEVATION



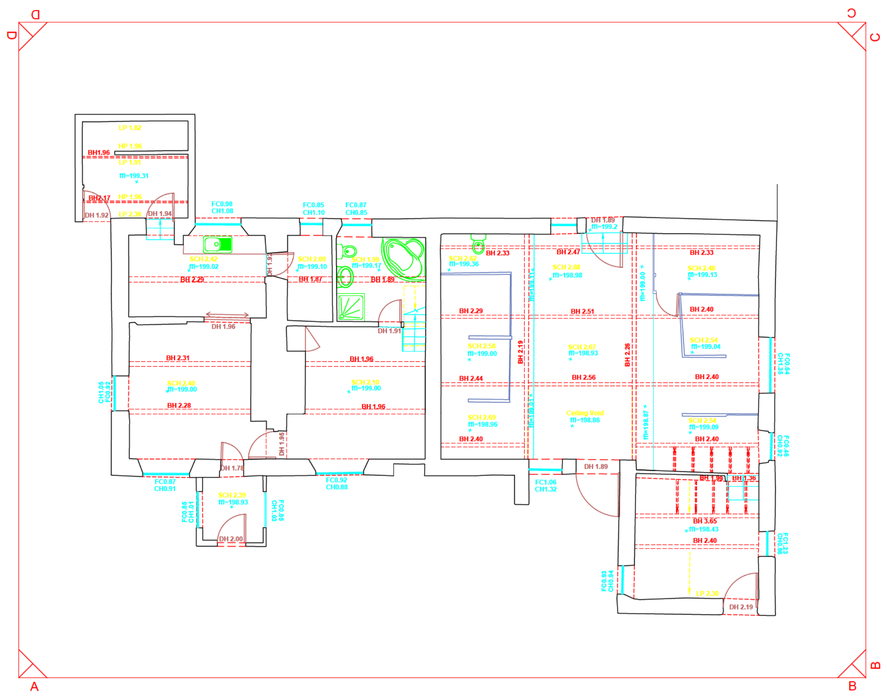
RIGHT ELEVATION



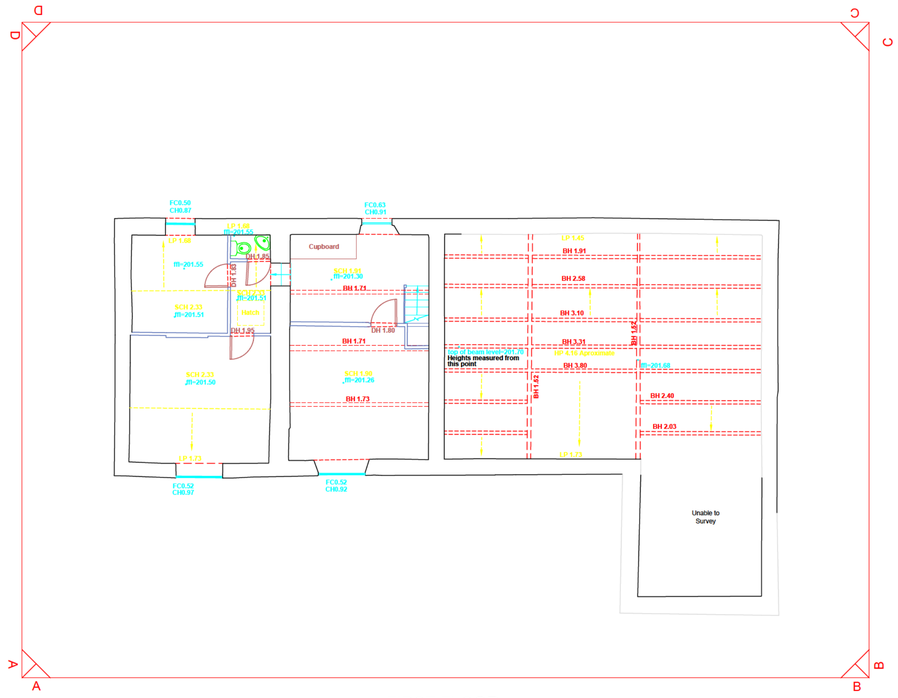
REAR ELEVATION



LEFT ELEVATION



GROUND FLOOR



FIRST FLOOR

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 — ffl=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

*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 inaccess ble. See highlighted areas for further details.

ASSUMED

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

sitesurveyingservices
LAND | ENGINEERING | BUILDING | BIM

Site Surveying Services Ltd
Unit 9
Twin Brook Business Park
Twin Brook Road
Clitheroe BB7 1QX
Tel: 01200 438320
surveyors@sitesurvey co.uk

construction line

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

Notes:

THE SURVEY ASSOCIATION

Drawing Number: sss-9525	Revision: B
Drawn By: PB	Checked By: SF
Date: 10/08/21	Scale: 1:100 @ A1 — Sheet: 2

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 Site Plan

1 : 250
0 1 3 5 7m

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Mr & Mrs McLaughlin

Planning Application
Proposed Site Plan

DATE January 2024

JOB NO 3375
DRAWING NO PL-002
REVISION
SCALE 1 : 250 @ A2

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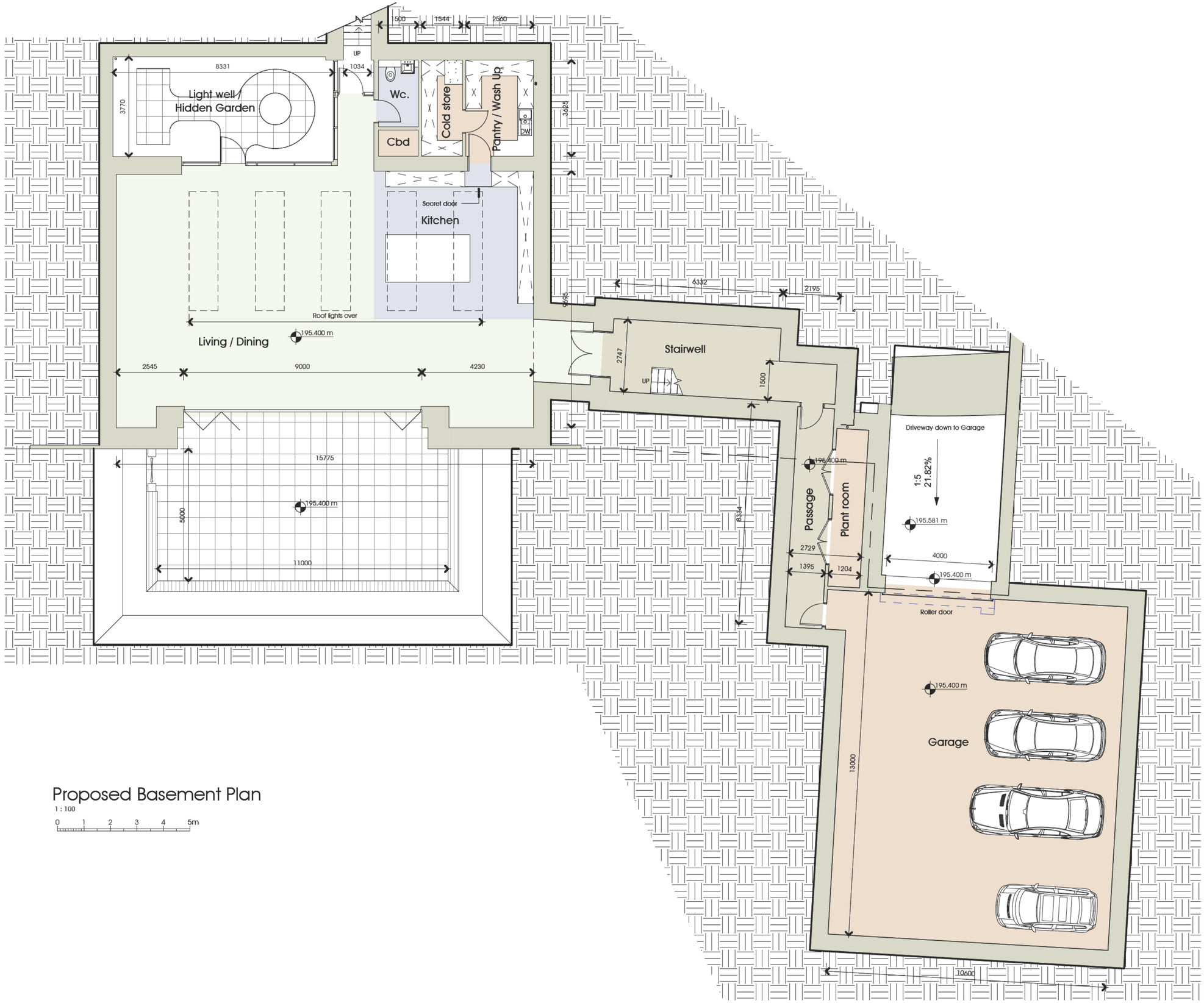

Proposed Basement Plan

1 : 100

0 1 2 3 4 5m

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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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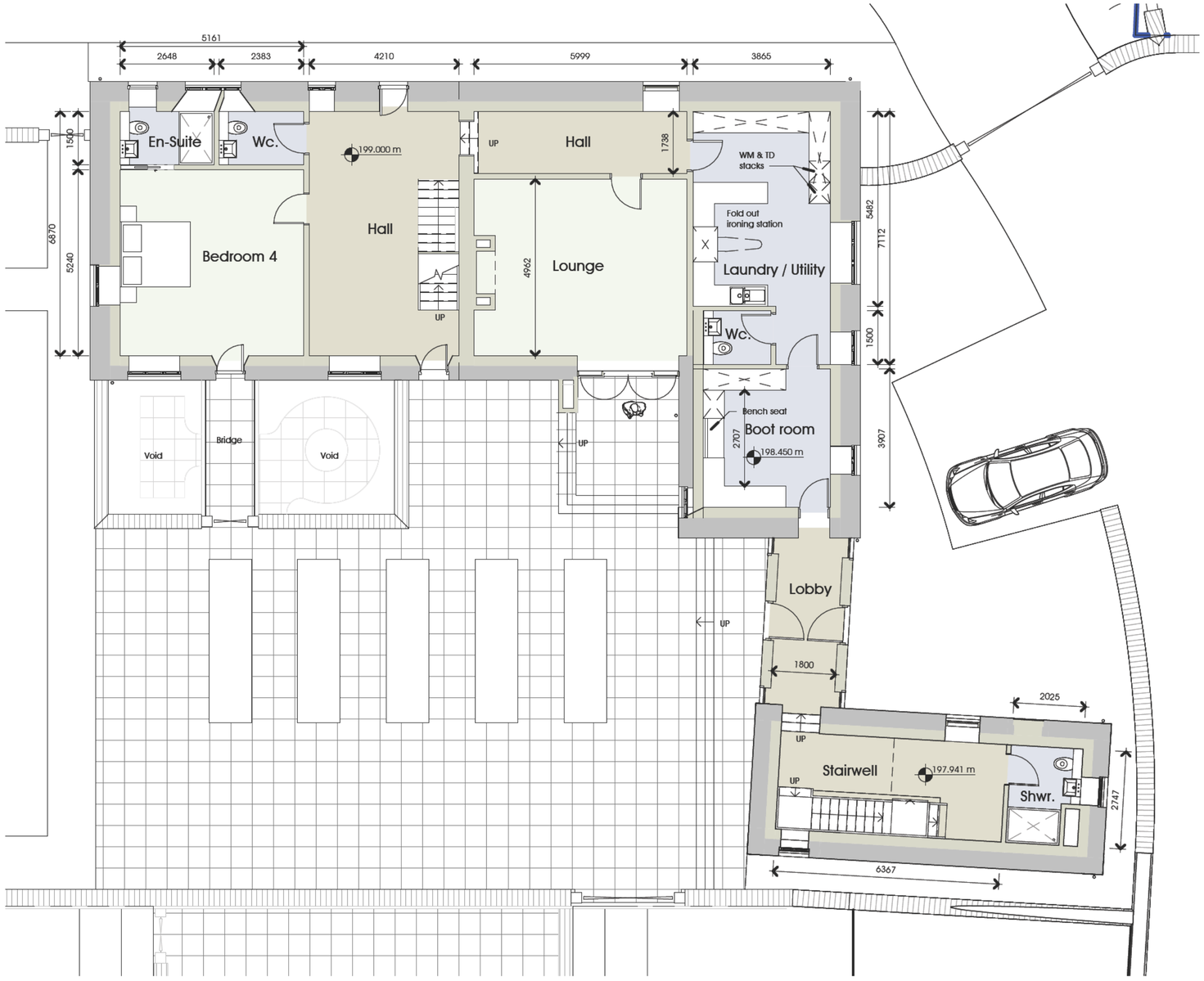

Proposed Ground Floor Plan

1 : 100

0 1 2 3 4 5m

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Cuckoo Hall
Higher Road,
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Mr & Mrs McLaughlin

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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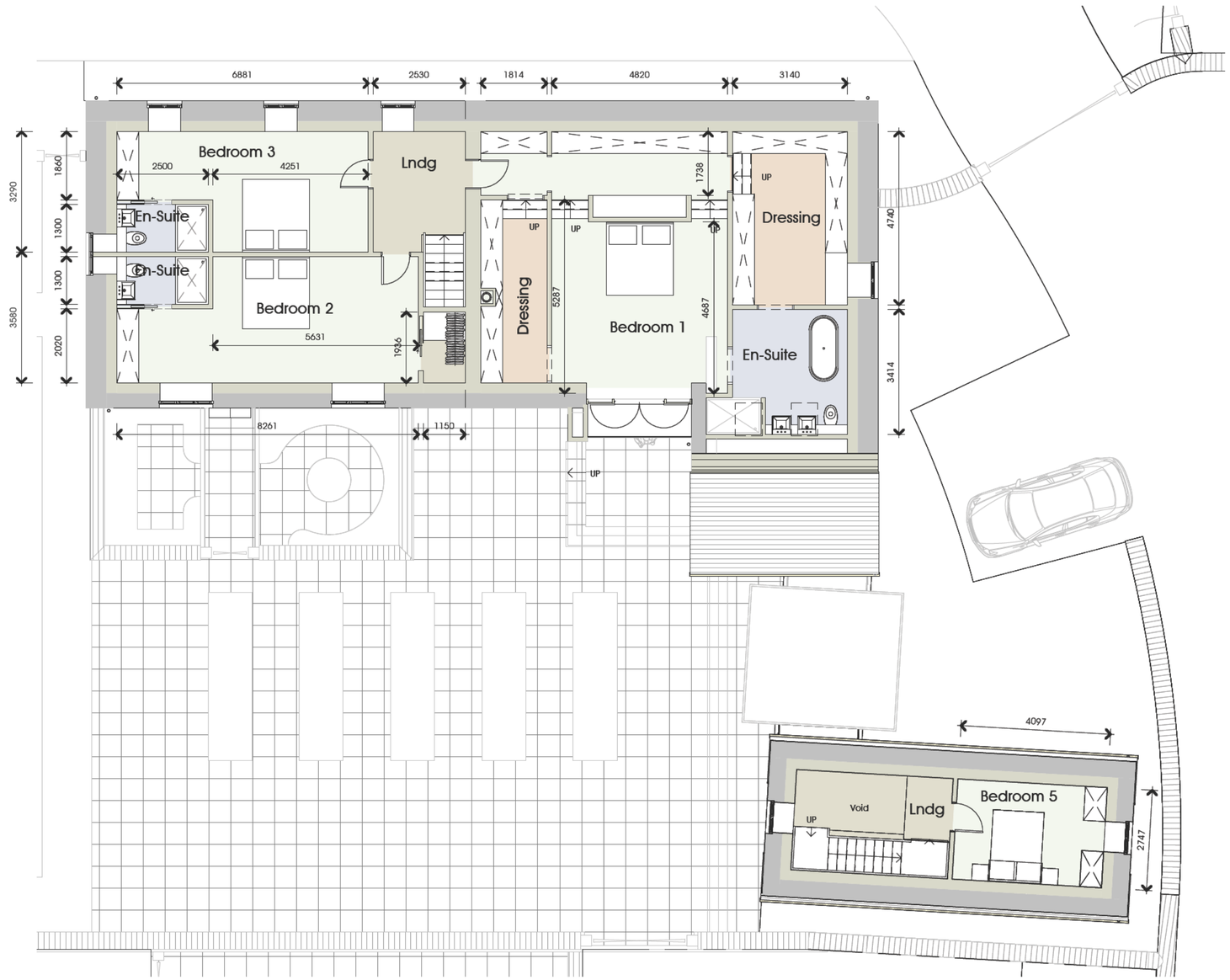

1FL Proposed

1 : 100

0 1 2 3 4 5m

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

Planning Application
Proposed First Floor Plan

DATE January 2024

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

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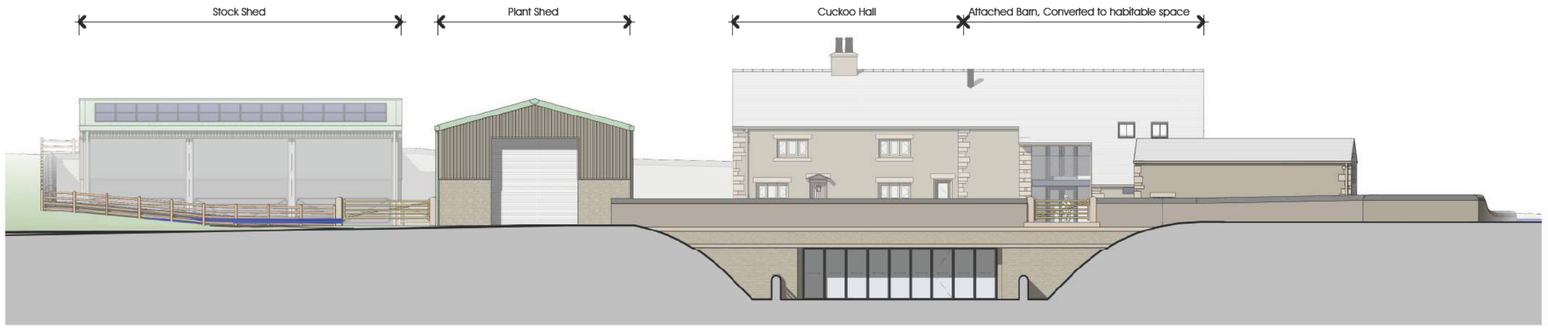
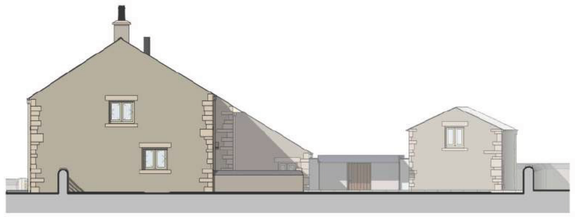


GA Elevation, Proposed South
1 : 200

0 1 5 10m

GA Elevation, Proposed East
1 : 200

GA Elevation, Proposed North
1 : 200



GA Elevation, Proposed West
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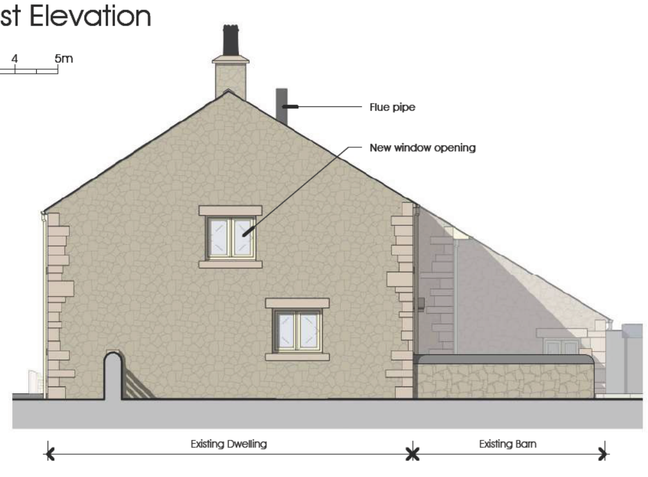
Dwelling, East Elevation
1 : 100

0 1 2 3 4 5m

Dwelling, South Elevation
1 : 100



Dwelling, West Elevation
1 : 100

Dwelling, North Elevation
1 : 100

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Cuckoo Hall
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Mr & Mrs McLaughlin

Planning Application
Proposed Elevations 01

DATE January 2024

JOB NO 3375
DRAWING NO PL-006
REVISION
SCALE As indicated @ A2

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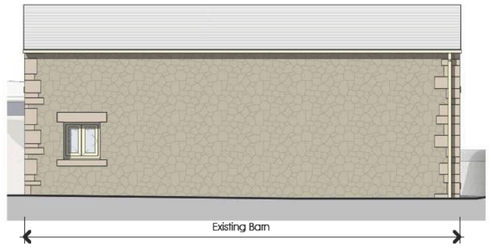
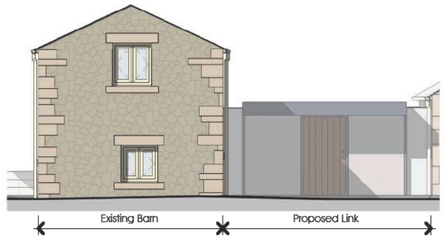


Barn, South Elevation
1 : 100



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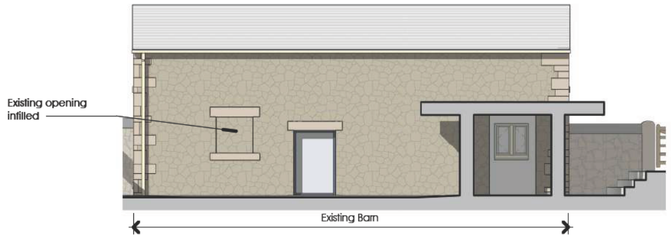
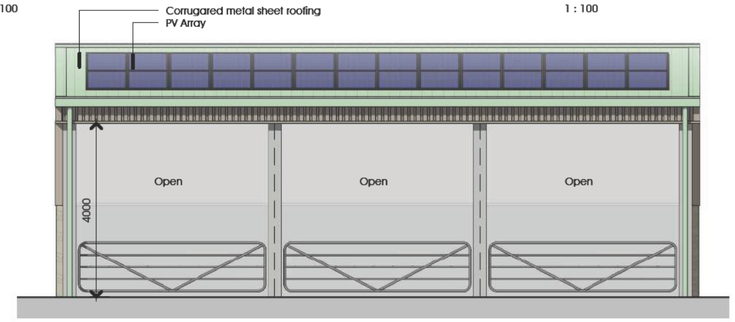


Barn, North Elevation,
1 : 100

Barn, West Elevation
1 : 100



Proposed Stock Shed, South Elevation
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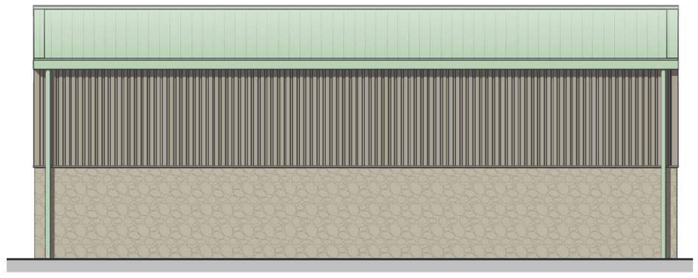

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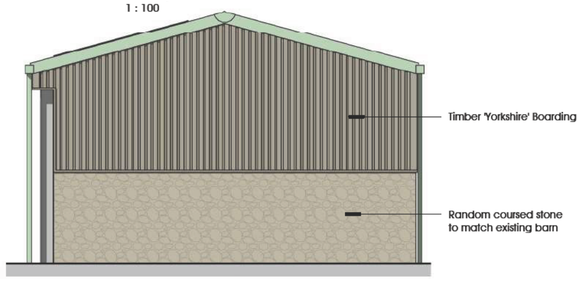
1 : 100



Proposed Stock Shed, East Elevation
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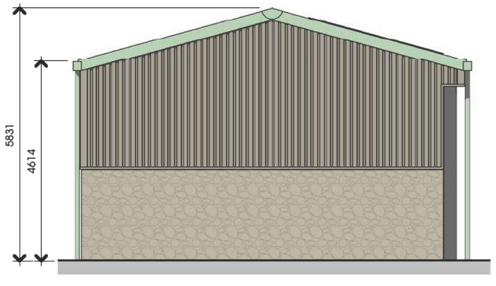
0 1 2 3 4 5m



Proposed Stock Shed, West Elevation
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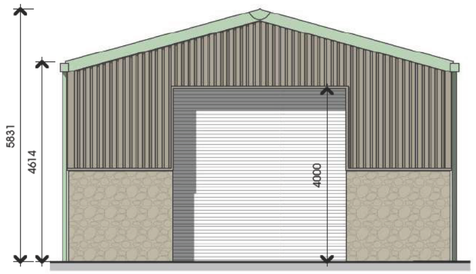
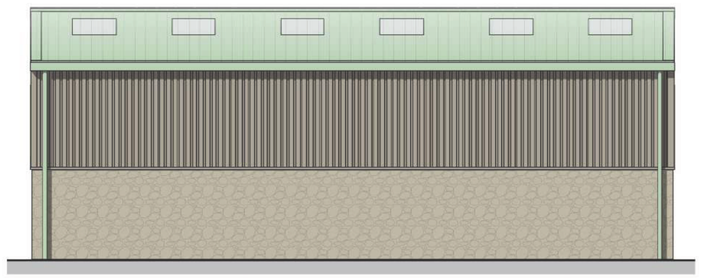


Proposed Equipment Shed, South Elevation
1 : 100

Proposed Equipment Shed, North Elevation
1 : 100



Proposed Equipment Shed, West Elevation
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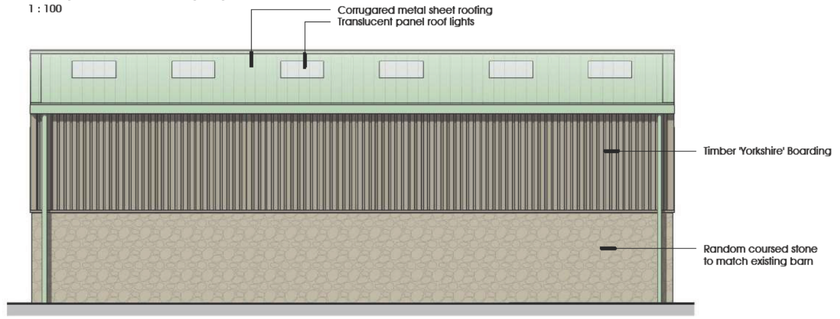

Proposed Equipment Shed, West Elevation
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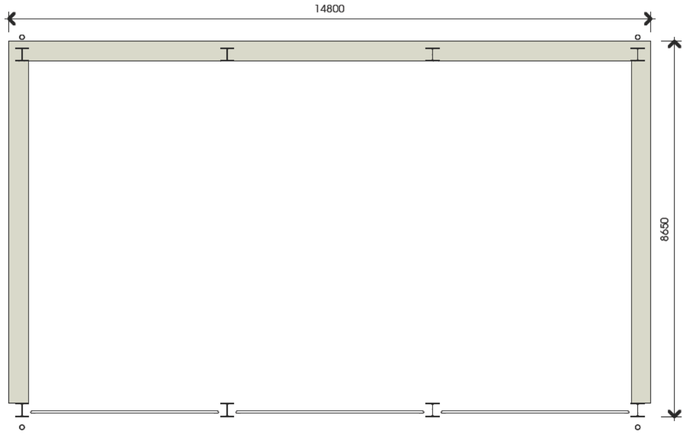
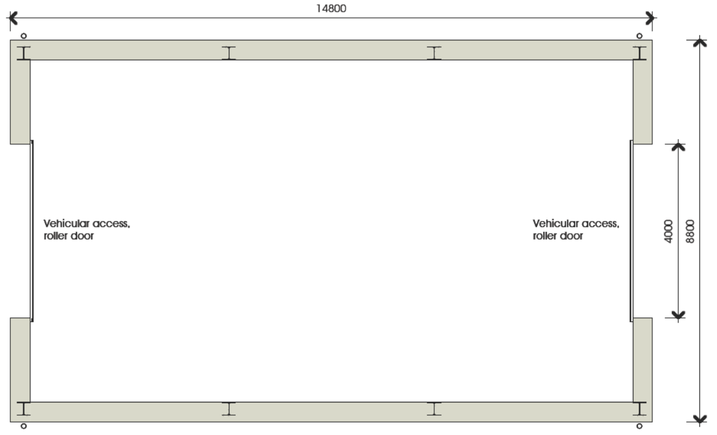


Proposed Stock Shed Floor Plan
1 : 100



Proposed Equipment Shed Floor Plan
1 : 100

PGB Architectural Services LTD Lily Cottage, 12 Glen Avenue, Knowle Green, Preston PR3 2ZQ
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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

PGB ARCHITECTURAL SERVICES LTD

Appendix B

Photographs

Photo 1 - South Elevation

Photo 2 – South Elevation

Photo 3- South Elevation roof

Photo 4 – South Elevation roof

Photo 5 – South Elevation

Photo 6 – South Elevation

Photo 7 –South Elevation

Photo 8 – South Elevation

Photo 9 – East Elevation

Photo 10 – East Elevation

Photo 11 – East Elevation

Photo 12 – East Elevation

Photo 13 - North Elevation within adjoining building

Photo 14 - North Elevation within adjoining building

Photo 15 - North Elevation roof

Photo 16 – East Elevation

Photo 17 - Internal south outrigger

Photo 18 - Internal south outrigger

Photo 19 - Internal south outrigger

Photo 20 - Internal south outrigger

Photo 21 – Internal south outrigger (hopper)

Photo 22 – Internal looking to gable with house (west)

Photo 23 – Internal looking north

Photo 24 – Internal east gable

Photo 25 – Internal east gable

Photo 26 - Internal looking to gable with house and north elevation

Photo 27 – Internal looking to gable with house and south elevation

Photo 28 – Internal loft floor

Photo 29 – Internal loft floor and hopper

Photo 30 – Internal stalls and loft floor

Photo 31 – Internal stalls and loft floor

Photo 32 – Internal north west corner with toilet

Photo 33 – Internal floor

Photo 34 – internal floor

Photo 35 – Internal loft timbers

Photo 36 – Internal roof truss

Photo 37 - Internal roof truss and timber purlins & rafters

Photo 38 - Internal roof truss and timber purlins & rafters

Photo 39 - Internal roof truss and timber purlins & rafters

Photo 40 – Internal loft floor and roof structure

Photo 41 – Internal looking west to gable with house

Photo 42 – Internal south elevation

Photo 43 – Internal roof

Photo 44 – Internal roof

Photo 45 – Internal south elevation

Photo 46 - Internal showing brickwork to doorway