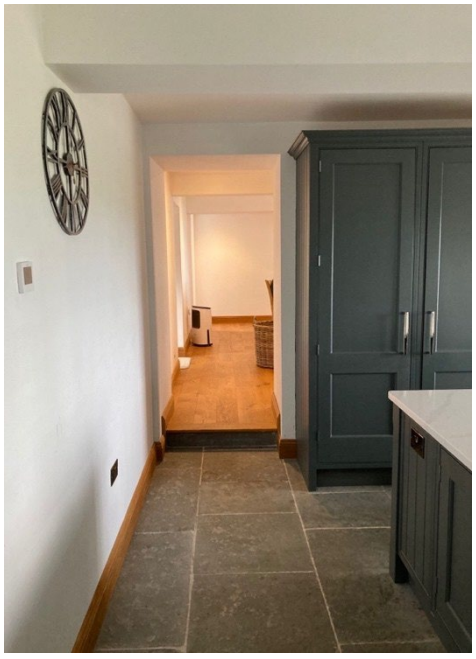
Overgate Mealsgate – Statement of Changes due to Structural/Building Regulation issues- February 2025

Whilst permission was obtained for various works during the construction a greater understanding was gained revealing structural issues or building issues conflicting with current building regulations which required some minor amendments: -

Raising of the internal ground floor

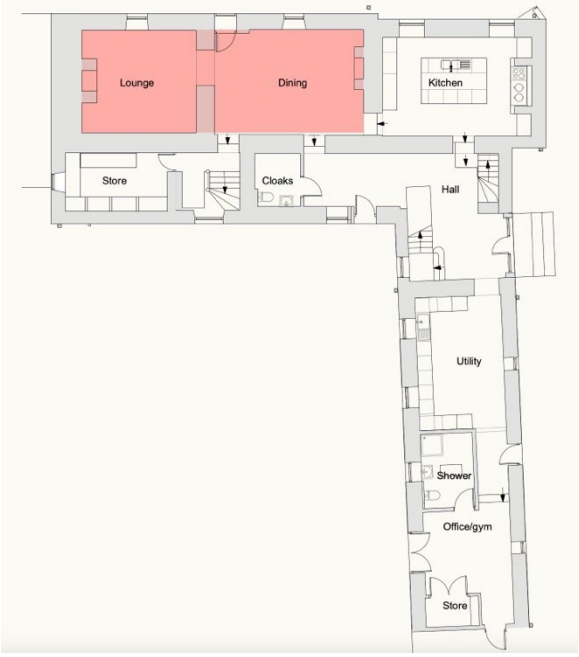
The ground floors were in a poor condition and needed replacement (see engineers report). In addition our client wanted to install a ground source heat pump with underfloor heating rather than radiators which would better suit the historic nature of the building together with floor insulation and a damp proofing. Approval was given to replace the floors (LBC/2023/0019).

With this trial holes were excavated against the main house walls which identified the walls to be founded at a shallow level. Significant underpinning would have been required to facilitate the new ground floor construction. The walls are formed in random stone rubble fill and appeared loose in many locations; local collapse was a real potential should the walls be undermined. The engineers opinion was to lift the floor level to allow the new floor construction to be achieved without undermining the existing structure. In addition in some areas external ground levels were higher than internal floor levels which would not comply with todays building regulations and lead to damp issues. (BRegs Document C Para 5.5 – diagram 9 below).



View from kitchen - Step up to dining and living area

Permission was given to insulate and replace floors and with the above engineers comments, to avoid walls collapsing and to comply with todays building regulations it was necessary to raise the floor slightly in the living room and dining area which also helped with damp issues.

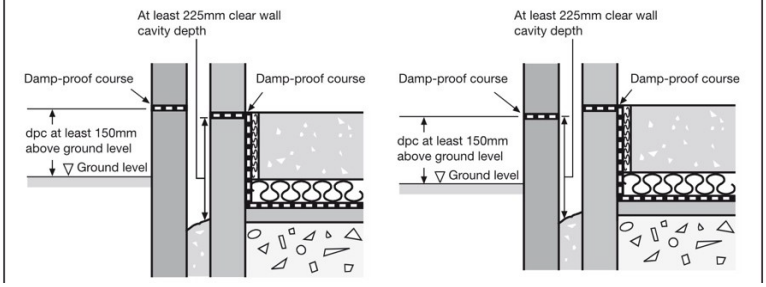


Ground floor Raised floor area

See WDSInspection report- item 1

Floor condition

Diagram 9 **Protecting inner leaf (see paragraph 5.5(c))**



Extract from B Regs Doc C

Access to Building

The ground level on the south side of the building was significantly higher than the ground level on the north side. Floor levels needed to be maintained to suit external door level access requirements and level access to accessible toilet to suit building regulations Document M4(1): -

Visitors can access and use the habitable rooms and a WC within the entrance storey of the dwelling….access between them is step free.

Requirement M4(1): Category 1 – Visitable dwellings

This section of the approved document deals with the following requirement from Part M of Schedule 1 to the Building Regulations 2010.

Requirement	
Requirement	*Limits on application*
Category 1 – visitable dwelling	
Access and use	
M4(1). Reasonable provision should be made for people to— (a) gain access to; and (b) use, the dwelling and its facilities	Requirement M4(1) does not apply to: (a) an extension to a dwelling; or (b) any part of a building that is used solely to enable the building or any service or fitting in the building to be inspected, repaired or maintained.

Performance

In the Secretary of State's view, requirement M4(1) will be met when a new dwelling makes reasonable provision for most people, including wheelchair users, to approach and enter the dwelling and to access habitable rooms and sanitary facilities on the entrance storey. Reasonable provision is made if the dwelling complies with all of the following.

a. Within the curtilage of the dwelling or the building containing the dwelling, it is possible to approach and gain access to the dwelling.

b. It is possible to gain access to the dwelling, or the building containing the dwelling, from the most likely point of alighting from a car.

c. A disabled person who is able to walk is able to visit any dwelling in a building containing one or more dwellings.

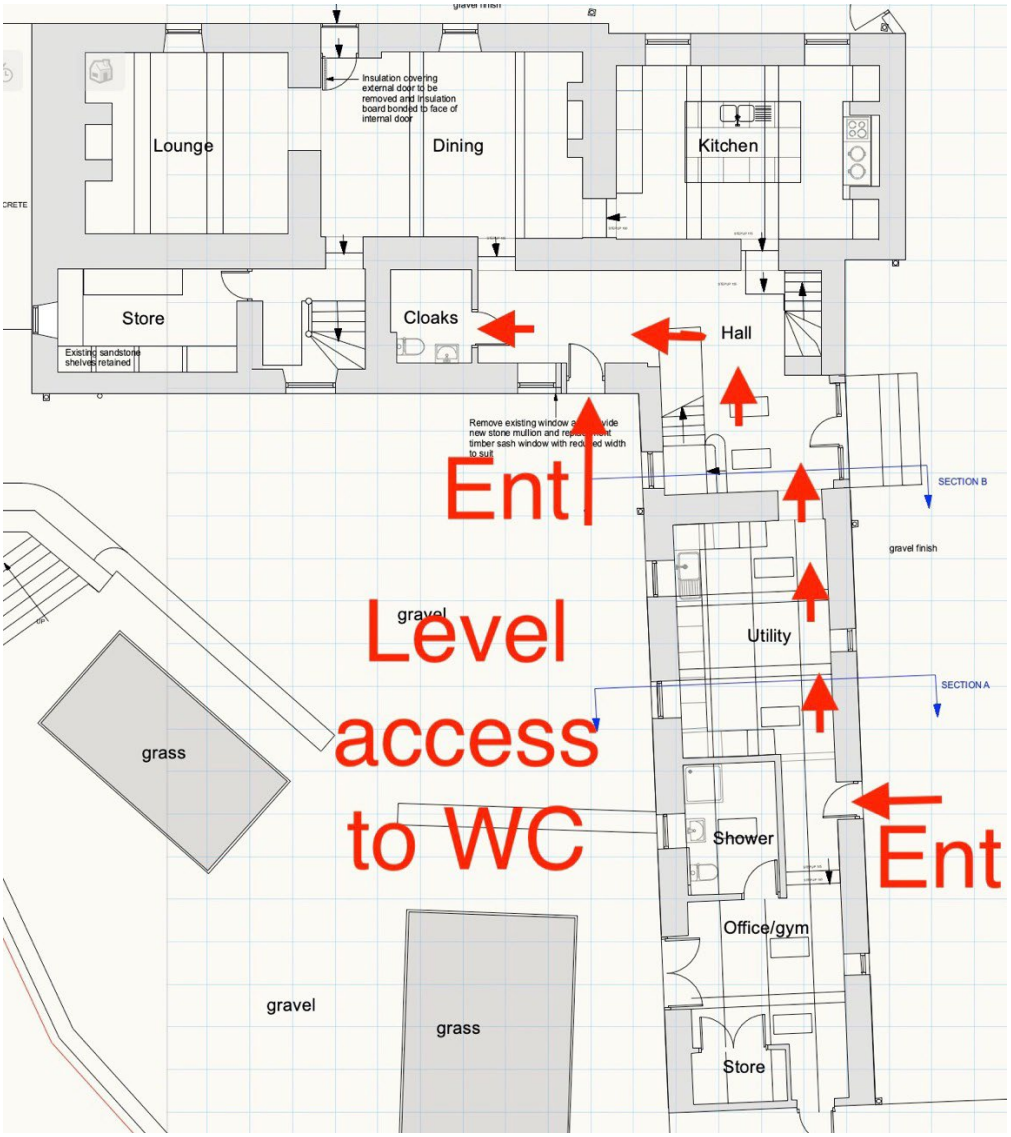
d. Visitors can access and use the habitable rooms and a WC within the entrance storey of the dwelling (or the principal storey where the entrance storey does not contain a habitable room).

e. Where the habitable rooms and the WC are located on the entrance storey, access between them is step free.

The external level access entrance to the barn and utility area leads into the link building and into the upper ground level of the farmhouse were the accessible toilet is located. Due to existing ground levels this results in external steps to the main entrance and a low floor to ceiling level under the first floor balcony(2.13m).

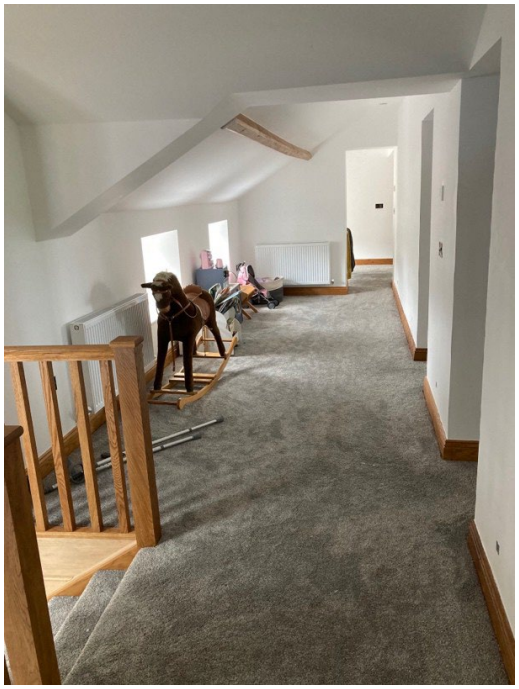


Level access to rear door and office door leading to level access to toilet



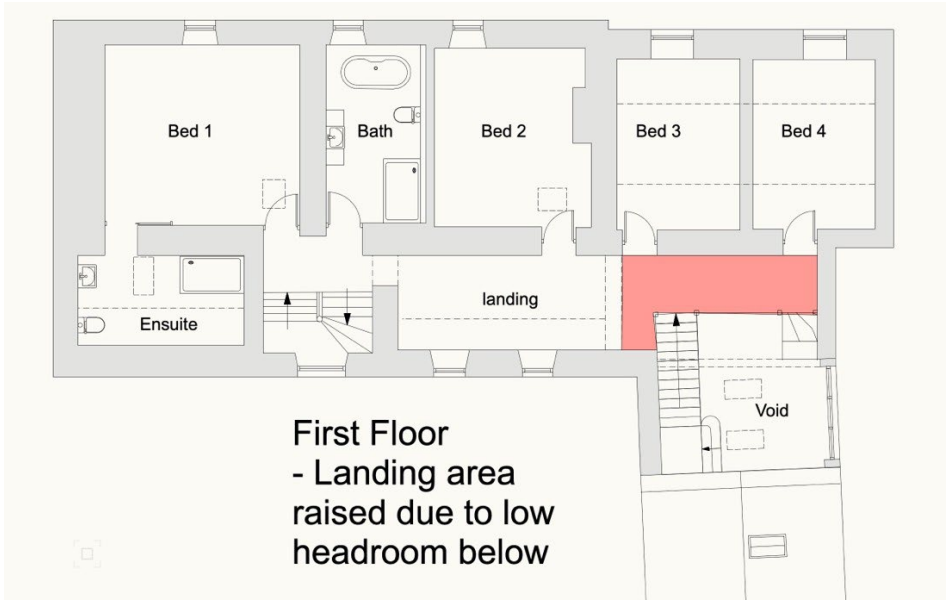
Raising of a section of Landing floor

Approval was given to remove bathroom, wc and stores in the sloping area of roof which had limited headroom to allow a more open plan and brighter landing area however the approval did show a step down on the landing. As noted above headroom at ground floor under the landing is low (2.130m) and a step down on the landing would reduce headroom to less than 2m which would be unacceptably low.



1 - Light and airy First floor Landing area

2 - Limited headroom under landing



Building regulations no longer give minimum room heights however they do require 2m minimum headroom on a staircase which is an implied minimum height for a room but really only suited to small areas. (B Regs Document K Para 1.1)

Headroom for stairs

For all buildings

1.11 On the access between levels, provide the minimum headroom shown in Diagram 1.3.

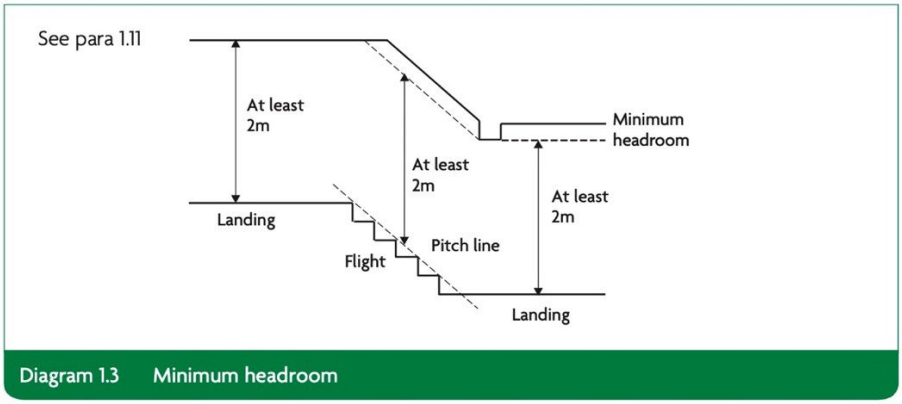


Diagram 1.3 Minimum headroom

Extract from B Regs Document K

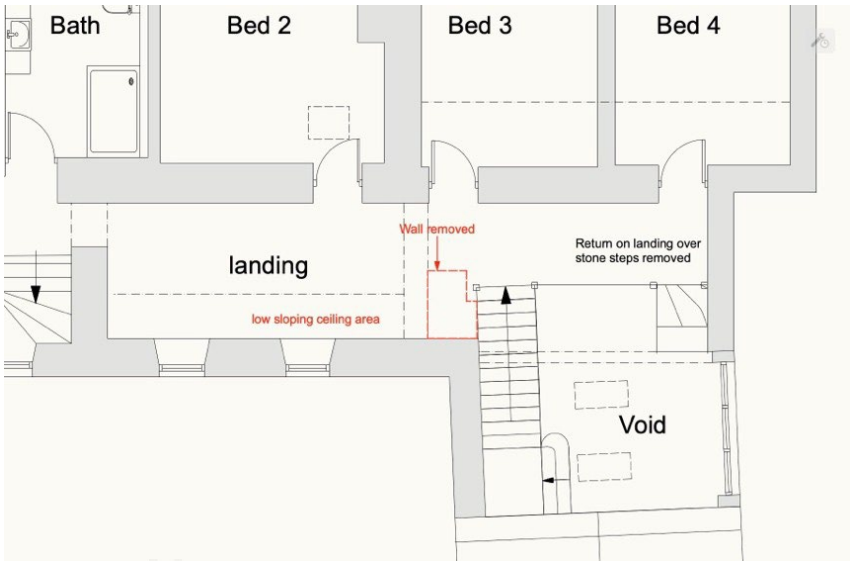
In addition approval (LBC/2021/0024) was also given to strengthen the first floor beams and replace first floor joists with 125 x 75mm joists alongside existing joists in bed 3 & 4 (above kitchen). New joists alongside the existing could only be achieved without weakening the existing floor beams with joists at a slightly higher level resulting in the raising of the floor in bedroom 3 and 4. First floor levels in Bed 3 & 4 then matched Bed 1 & Bed 2 floor level and removed the step down on the landing.

The structural report stated: -

The joisted floor over the kitchen was in an inadequate structural condition. The joists comprised 75mm deep timber sections which spanned between the house walls over intermediate timber beams. The joists bounced significantly when walked upon and the timber beams had been affected by rot especially where set into the main walls. In our opinion the floor structure needed replaced with a suitably designed structure.

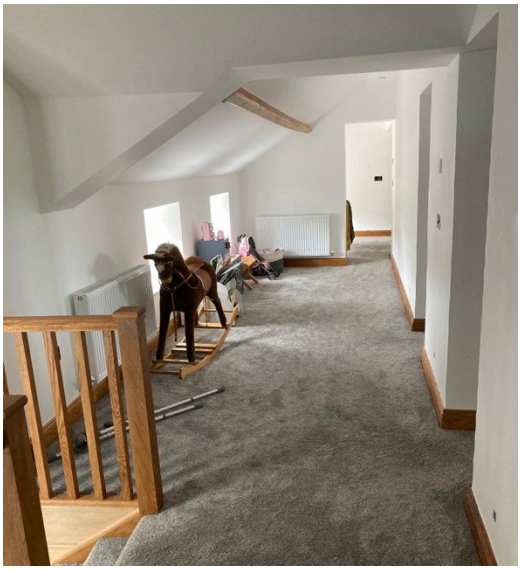
Removal of the top stairs wall.

Approval was given to remove a section of wall at ground floor and the formation of a stair cupboard under the stair. This wall also continued up to first floor but was shown retained on the approved plans.



The first floor wall to be retained was to be supported on steel beams. The section of the existing wall was plastered, in a low sloping area of roof and provided enclosure to a store.

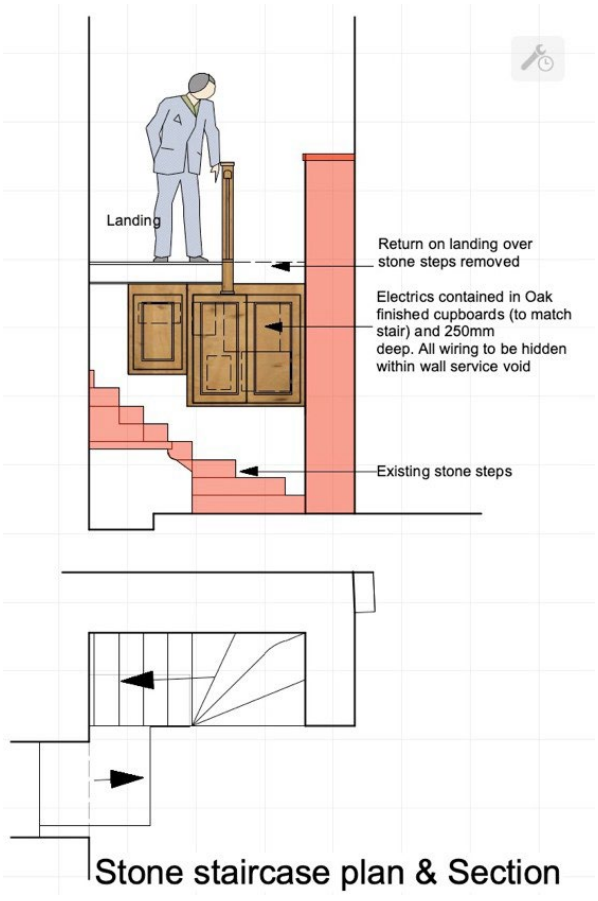
With the removal of all other bathroom/store walls in this area to provide an lighter/brighter landing area (see photo 1) the non structural wall was removed to continue the open plan theme and not felt to be detrimental providing light at the head of the stair and an open view.



Head of stairs with open view to landing

Wall lining adjacent the staircase

Approval was given to replace nearly all external walls linings with insulated plasterboard lining. LBC/2023/0019.

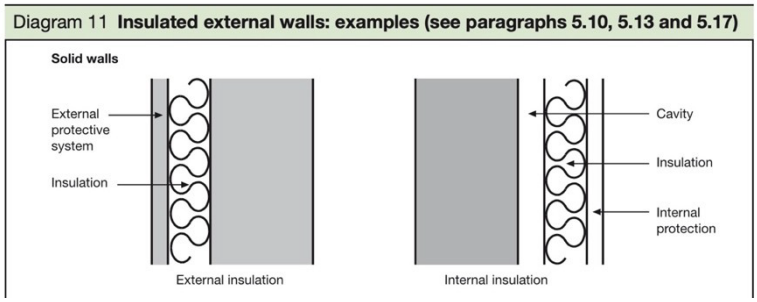


The one area not shown was the external section of wall adjacent the stone staircase. This wall however contained the existing electric meter and fuse board to which all circuit wiring returns which originally together with the stair was hidden in a modern partition enclosure with sliding door. It was agreed the feature stone stair should be open to view due to its historical significant and remain a feature in the building. With no wall lining the area of north facing wall is a cold bridge and there was found to be rising damp issues.

Therefore in accordance with BRegs Document C Para 5.10 – diagram 11 the lining of the wall is necessary to prevent damp issues. This has the huge benefit of creating a service void to hide all wiring to and from the existing circuit board. There are further plans to enclose all electrical equipment in a close fitted wall cupboard above the stone stair which will be subject to a further LBC application.

Illustration 4 – Lining to wall and proposed electric cupboard

Wall lining and electrical equipment – all other external walls lining approved



Extract from B Regs Document C

Revised Proposals also include removal of a section of landing over the bottom stairs to allow a view down on to the lower stone steps.

Single storey Barn

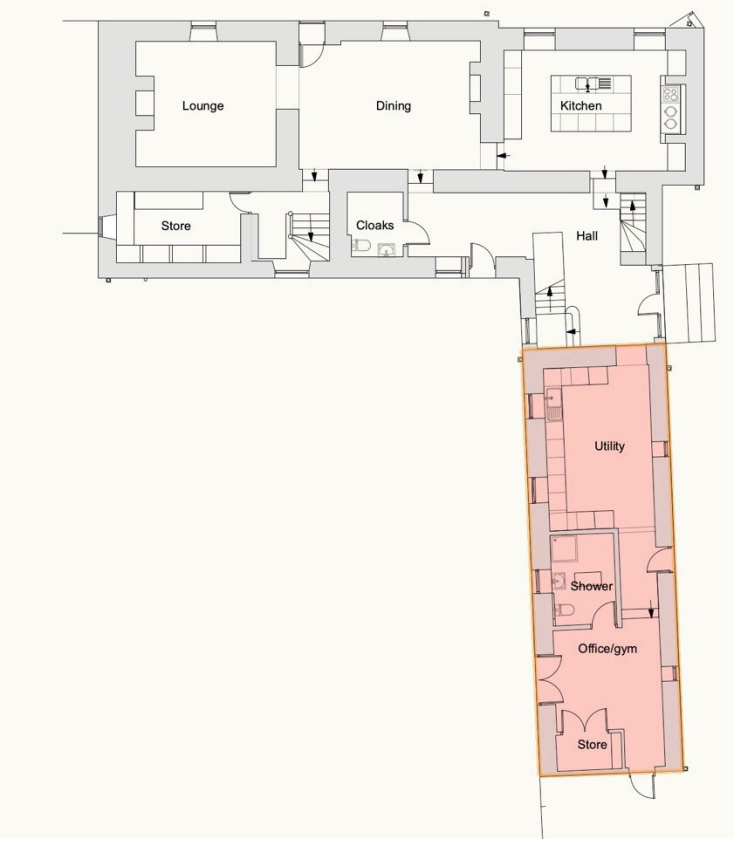
Approval was given to convert the single storey barn to provide a farm office, shower/wc and utility space including the refurbish of the roof slating and replacement of rotten timber roof trusses. The roof was in a poor condition with holes in the roofing due to slate loss or slip. The replacement roof trusses which matched existing sit on pad stones and in some areas are located above window lintels which dictated the height of the roof.

In addition the original slightly undersized roof rafters needed replacement due to rot with slightly taller rafters specified by the engineer and given approval. The taller rafters also allowed thicker insulation to be incorporated in the roof to reflect current thermal regulations in the building regs. (Building Regs Document L Table 4.2 Limiting U values in existing buildings)

All of the above with an element of levelling of the top of the wall resulted with a slight increase in the eaves height which was made up in stone to match the existing stonework.

Finished Floor level was set by the external ground level in order to provide level door access and stepped in the office area to maintain floor level of 150mm above ground level to suit building regulation requirements.(Building Regs Document M 4-1)

Illustration 5 - Window lintel and truss padstone above windows outlined in red



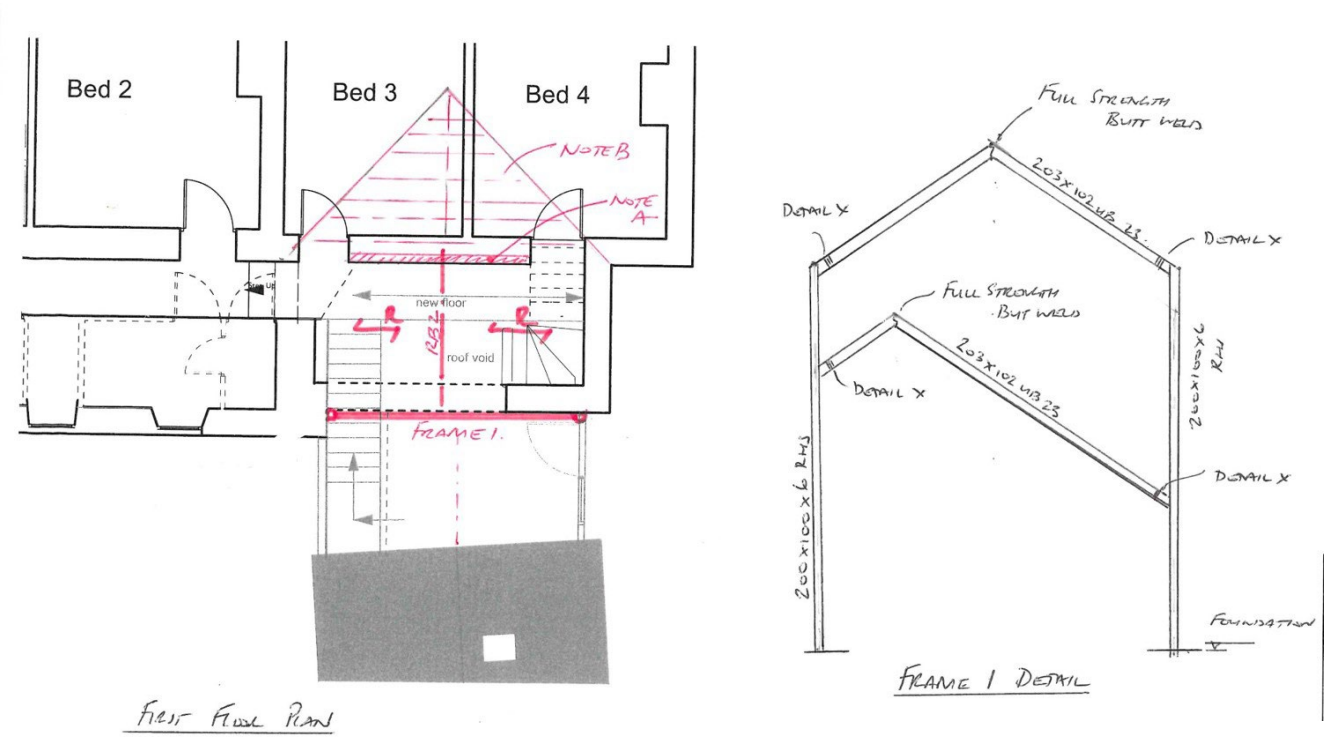
Single storey barn
Timber trusses replaced due to poor condition

Link extension

Planning approval was given to infill between the existing farmhouse and the single storey barn. However there was a dimensional error in the original drawn proposals and the infill between the two buildings is slightly wider than originally shown. This has been corrected.

With the development of the engineers steeelwork proposals for the link there is a increase in height of a short section of the eaves on the two storey extension however ridge height as been maintained in this area. As can be seen in Illustration 6 the steelwork for the link springs from the head of the door into bed 3 and was kept as low as possible appreciating the sensitive nature of any extension.

Illustration 6 –View of Entrance hall and staircase Steelwork spring point set out by door head height (highlighted in the red circle)



Structural design and frame details

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Our Ref: WDS/05/7658/LETI006

24th January 2025

Overgate Farm
Bothel

For The Attention of Mr C Hill

RE: Structural Inspection Floors & Chimney Breast. Overgate Farm House

Dear Sir

As requested, I have outlined below the findings of our initial inspection of the property in 2022 regarding the existing ground and first floor structures and the left hand chimney breast: -

1. The ground floors were in a poor condition and needed replaced to allow insulation and a DPM to be installed as per the Architects specification. With this trial holes were excavated against the main house walls which identified the walls to be founded at a shallow level. Significant underpinning would have been required to facilitate the new ground floor construction. The walls are formed in random stone rubble fill and appeared loose in many locations; local collapse was a real potential should the walls be undermined. Our opinion at that time was to lift the floor level to allow the new floor construction to be achieved without undermining the existing structure.
2. The joisted floor over the kitchen was in an inadequate structural condition. The joists comprised 75mm deep timber sections which spanned between the house walls over intermediate timber beams. The joists bounced significantly when walked upon and the timber beams had been affected by rot especially where set into the main walls. In our opinion the floor structure needed replaced with a suitably designed structure.
3. The left hand chimney breast was not bonded into the gable wall and had rotated away from the wall. The masonry forming the breast was also in a poor condition which was revealed when the old plaster was removed. It was our opinion that the breast structure was unsafe and should be removed.

I hope you find the above acceptable however should you have any queries please do not hesitate to contact me.

Yours Faithfully

Mr Tom Short B. Eng. (Hons), C. Eng., MICE
For WDS Limited

Plan to identify the points in the structural letter from WDS. Point one is pink, point two is yellow and point 3 is green.