



21314

BRANCH ROAD FARM, BRANCH ROAD
LITTLEBOROUGH – OL15 0AB

May 2021

Revised: 24th June 2022

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REPORT ON STRUCTURE

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(HC Drawing 21314-01,02, 03B, 04A.)**

1.00 INTRODUCTION

- 1.01** We were requested by Mr Wildman to carry out a survey and to provide a report on the structure of the property known as The Barn, Branch Road Farm, Littleborough. See photograph 1.
- 1.02** The purpose of the report was to assess the structural suitability of the remaining structure for reinstatement and conversion to a domestic dwelling. The report is to be used to aid a planning application and to help identify to the Planning Officers, the intentions of Mr Wildman and his Design / Construction Team.
- 1.03** For the purposes of this report all references to left, right, front and rear should be taken as viewing the property from Branch Road.
- 1.04** This report has been carried out on a purely visual basis. We have not inspected parts of the property which are covered, unexposed or inaccessible and such parts are assumed to be in good repair and condition.
- The report does not purport to express an opinion about or to advise upon the condition of any uninspected parts, and should not be taken as making any implied representation or statement about such parts.
- We have not inspected nor tested the drains and other services and are therefore not in a position to advise upon any defects.
- 1.05** This report has been carried out for guidance of the person named overleaf in his pursuance of planning permission for conversion of the barns to domestic use and should not be used as a specification for carrying out the works.
- 1.06** This report has been carried out for the person named overleaf to be used in connection with their purchase, selling or repair of the property and should not be copied or sold to any other persons without the agreement of Healey Consulting.

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2.00 DESCRIPTION

2.01 The part of the property to be converted originally comprised of a stone barn of two storey proportions with a single storey rear lean-to occupying the full length of the rear elevation. During the first attempt of the conversion, a number of walls became unstable and partial collapse occurred. This we feel, was partially attributable to the loss of restraint following the removal of the roof.

2.02 Drawings depicting the barn as existing at the time of our inspection are appended to the rear of this report, along with photographs taken at the same time.

2.03 The barn is attached to an existing, occupied farmhouse.

The ground floor of the farmhouse is raised approximately 950mm above that of the barn. The two share the same ridge line.

The party wall, with the farmhouse, is to remain as a party wall in the new development. See photograph 2.

2.04 The remaining barn walls are faced with a coursed local stone with narrow beds joints. See photograph 3. The inner leaf is of random stone and there is a poor, loose rubble fill. See photograph 4.

2.05 On the front elevation there is an existing large cart arch, two nominal window openings and a personnel door. See photograph 5.

2.06 The existing front elevation is complete up to within a few stone courses below eaves level. See photograph 6.

2.07 The left-hand side and rear elevations became unstable during demolitions and now only remain in part. See photographs 7, 8 & 9 - side elevation and photographs 10, 11 & 12 – rear elevation.

2.08 The roof structure no longer exists. The slates were removed and are palletised on the side for re-use.

2.09 Where the walls have been taken down or collapsed due to instability, all facing stones, feature lintels and mullions have been kept for re-use. These are also on site and can be viewed if deemed necessary.

2.10 The existing floor slab currently remains. This is a mixture of different surfaces set at varying levels. See photographs 13 & 14.

3.00 DISCUSSION

3.01 EXTERNAL WALLS

The proposed elevations are shown using the original planning drawings. Appendix B.

The front elevation is predominantly as original. Notwithstanding the formerly approved additional window openings, the elevation is to remain undisturbed.

The external face of this elevation is deemed to be plumb to within acceptable tolerances and there has been little or no movement to the inner face.

The inner face is of random stone set in a relatively poor, lime mortar matrix. With local patch re-pointing in a lime mortar the inner leaf is deemed to be capable of being retained. In order to help stabilise the wall and avoid any further collapse, it is intended to carefully remove any loose mortar from the inner face and patch point as described.

The wall will be extended to eaves level, faced with the original coursed stone. The remaining partial elevations on the left and rear will be stabilised in a similar manner.

Prior to any further reconstruction, the existing floor slab will be removed and replaced with a new reinforced concrete raft. A typical detail is shown in Appendix D.

This detail will allow an internal blockwork leaf to be constructed without disturbing any existing foundations or walls. This will result in a slight loss of internal floor space. The ultimate design will be subject to Building Control Approvals. We have had discussions with Mr D Oakes of RMBC to this end.

The blockwork inner leaf will become the loadbearing element of the structure, thereby ensuring that there is no further physical disturbance to the original walls. The inner leaf will be tied to the original wall or outer leaf. Thereby increasing the lateral stability.

The roof and internal floors will be supported by the blockwork. During construction, both leaves will be brought up together such that there is no temporary instability of the walls.

Original facing stones will be used for the re-build. We estimate 90 to 95% of the stone facings have been salvaged.

Where new stone, including mullions, lintels and cills are needed, these will be obtained to match the existing and will be subject to approval by the lead Planning Authority.

On completion, the external elevations will be totally repointed in a style and manner to be agreed. A lime-based mortar will be used.

3.02 ROOF

There is currently no roof on the property. This was always to be replaced.

The roof structure will be of traditional construction, utilising timber rafters and purlins.

The introduction of a number of conservation roof lights has been previously agreed with the Planning Authority.

The original slate will be re-used, and any additional slates will be sourced to match.

Tying details will be employed to ensure the roof does not spread and will offer restraint to the new walls.

3.03 UPPER FLOORS

The second floor will be of timber construction and the first floor will be a pre-cast concrete floor of a beam and block nature. Each will be supported by new internal walls and steel beams where necessary. No vertical load will be applied to any of the existing walls, including the party wall.

The raft will be designed to equalise the bearing pressure under any thickenings. This is to avoid the potential of differential settlement.

3.04 GROUND FLOOR

The ground floor will be a ground supported RC raft.

The floor will be insulated.

3.05 METHOD STATEMENT

A more detailed method statement for the re-build, along with typical construction details, can be found in Appendix D.

4.00 CONCLUSIONS & RECOMMENDATIONS

- 4.01** We believe the collapse of the left-hand side and the rear elevation was inevitable given the condition of the walls and the poor quality of the inner leaf matrix and the loose rubble fill. See photographs 15 & 16. The loss of lateral restraint due to the removal of the roof was also a contributing factor.

It is obviously essential that no further collapse occurs and that any rebuild is undertaken with materials re-claimed from the site and in a manner in keeping with the original construction.

- 4.02** To this end, we have recommended action that will stabilise the remaining elements prior to any further work being undertaken.

The elevations to be rebuilt will be backed up with a blockwork inner leaf. This will need to step around areas of the external wall that remain standing.

- 4.03** To facilitate the construction, the local debris from the collapsed walls will need to be removed from the footprint of the building. The base stone course at ground level will then need to be prepared to receive the re-claimed facings.

- 4.04** Once this debris is removed from the footprint, the floor slab will be carefully broken out and removed from site. A new insulated concrete raft with relevant thickenings will form the base / foundation for the inner leaf and any internal load bearing walls.

- 4.05** Both leaves of the new external walls will be constructed in tandem, such that the wall does not become unstable during construction. Internal load bearing walls will, where possible, be tied to the inner leaf of the external walls to provide buttressing and lateral restraint.

A more detailed method statement, with sketches, is provided in Appendix D.

- 4.06** Given the nature of the remaining wall construction, it is in our opinion that the collapse was unfortunate but inevitable.

To leave the barn in its current state would, we feel, constitute a danger. The front elevation would ultimately collapse, potentially causing damage to the adjacent occupied dwelling.

We are clearly aware that 60%+ of the elevations now need to be rebuilt and that this is outside normal guidelines for conversions of this type, but given the current situation, we strongly recommend that the conversion is allowed to be completed in a controlled manner.

SIGNED... *P. Healey*.....

PAUL MICHAEL HEALEY
BSc (Hons) C.Eng M.I. Struct.E. M.a.P.S.

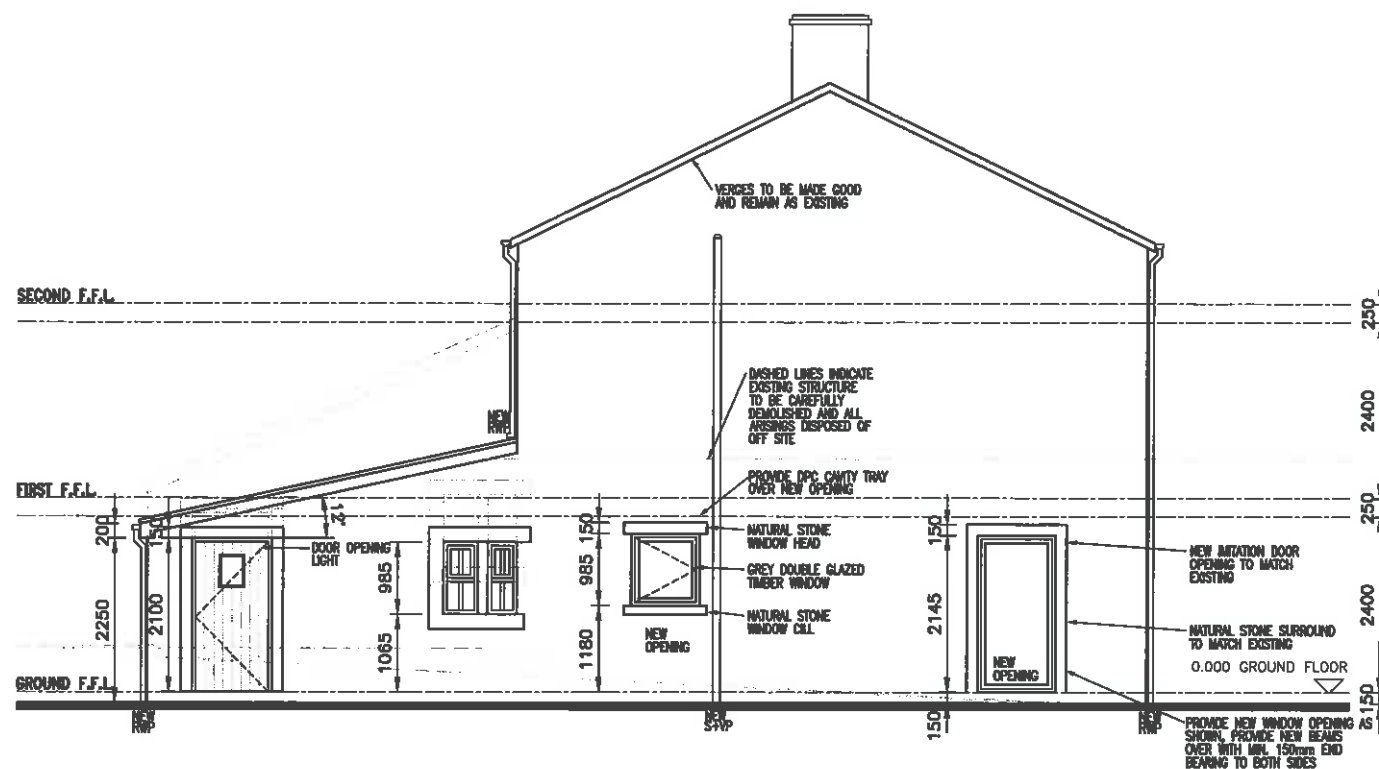
REVISED:...24th June 2022

APPENDIX A
ELEVATIONS AS EXISTING

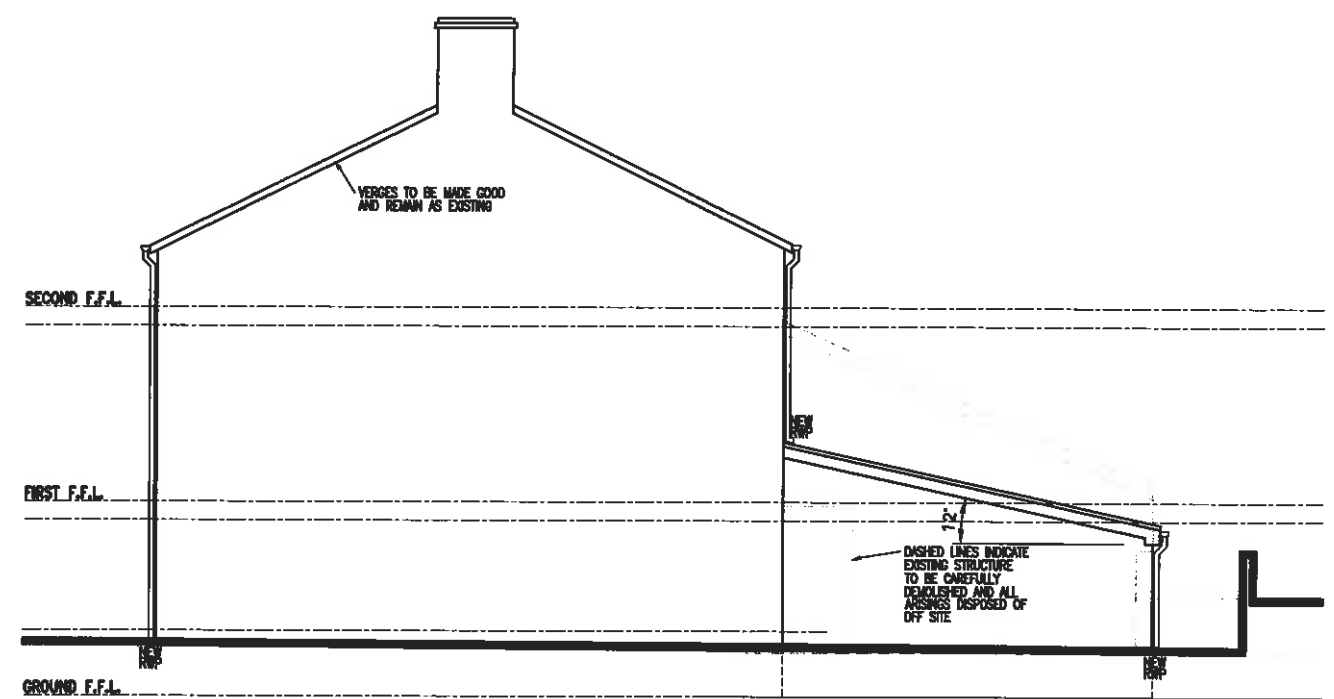


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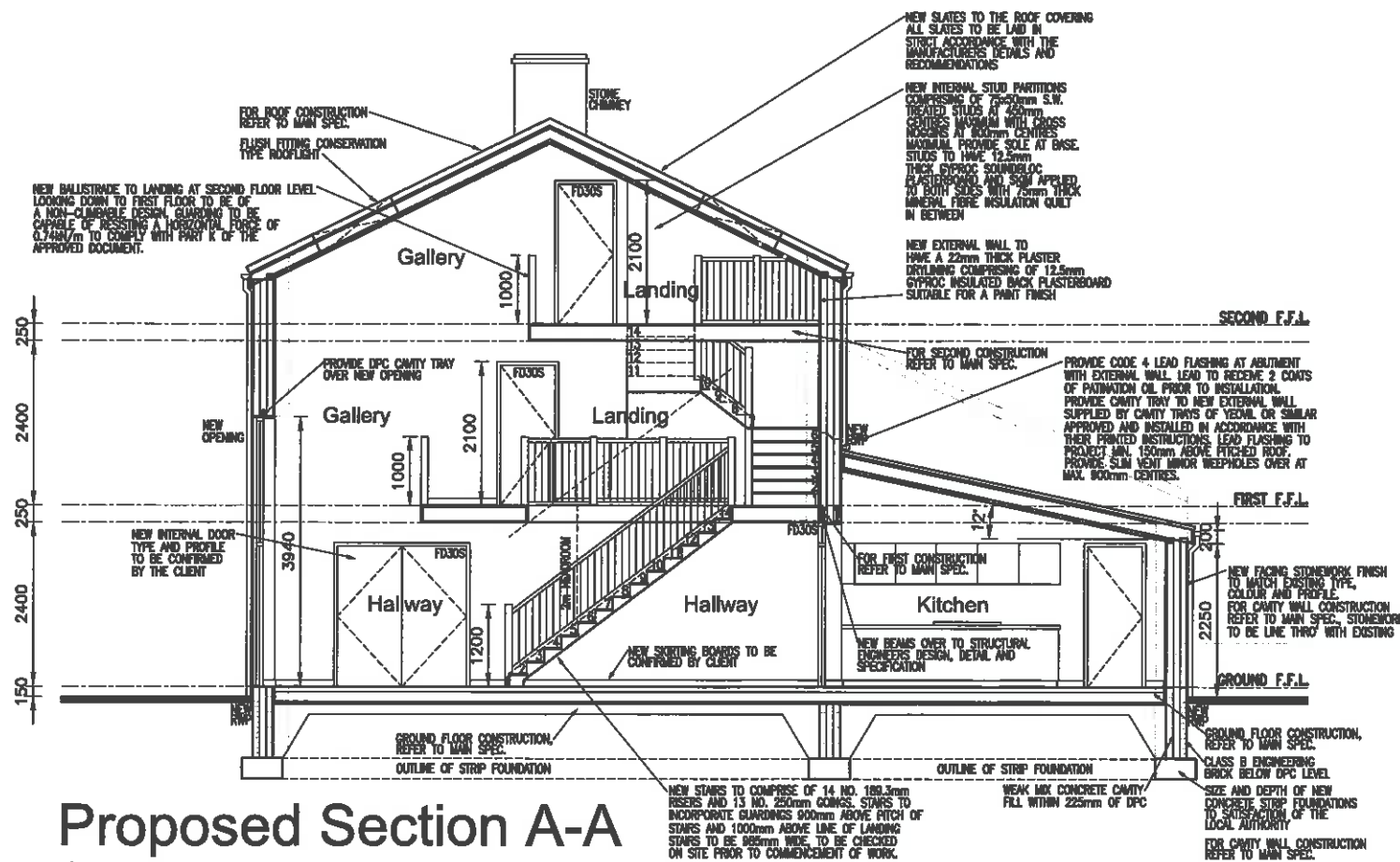
APPENDIX B
ELEVATIONS AS PROPOSED



Proposed Side Elevation



Proposed Side Elevation



Proposed Section A-A

NEW BEAMS INDICATED TO BE ENCASED IN 15mm THICK FIRELINE BOARD TO PROVIDE 1 HOUR FIRE RESISTANCE. ALL SUPPLIED BY BRITISH GYPSUM AND INSTALLED IN ACCORDANCE WITH THEIR PRINTED INSTRUCTIONS. ALL JOINTS TO BE TAPED AND PLASTERBOARD TO HAVE A SOW FINISH. ALL NEW BEAMS TO BE BOLTED TOGETHER, TO BE CONFIRMED BY STRUCTURAL ENGINEER.



Magnus Technical Engineering Ltd.
Blackthorn House
Skull House Lane
Appley Bridge
WN4 9DB

MAGNUS
TECHNICAL ENGINEERING

Rev.	Description	By	Date
1	Project: Mr & Mrs Wildman Branch Road Farm Littleborough OL15 0AB		
Drawing Title: Proposed Elevations Sheet 2 of 2		Drawing No.: WILDMAN/07	Rev.
Drawn by: P.E.		Scale: 1:50	Date: Mar '18

APPENDIX C
PHOTOGRAPHS



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14



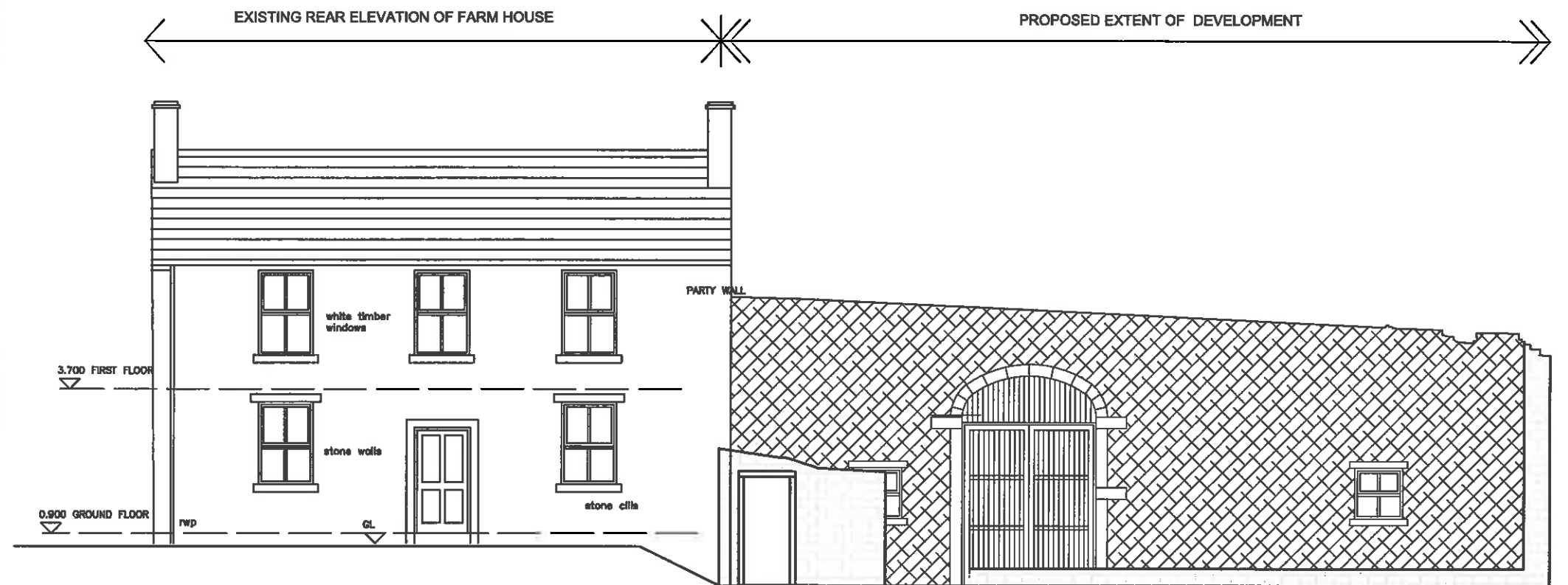
Photograph 15



Photograph 16

APPENDIX D
METHOD STATEMENT & TYPICAL CONSTRUCTION DETAILS



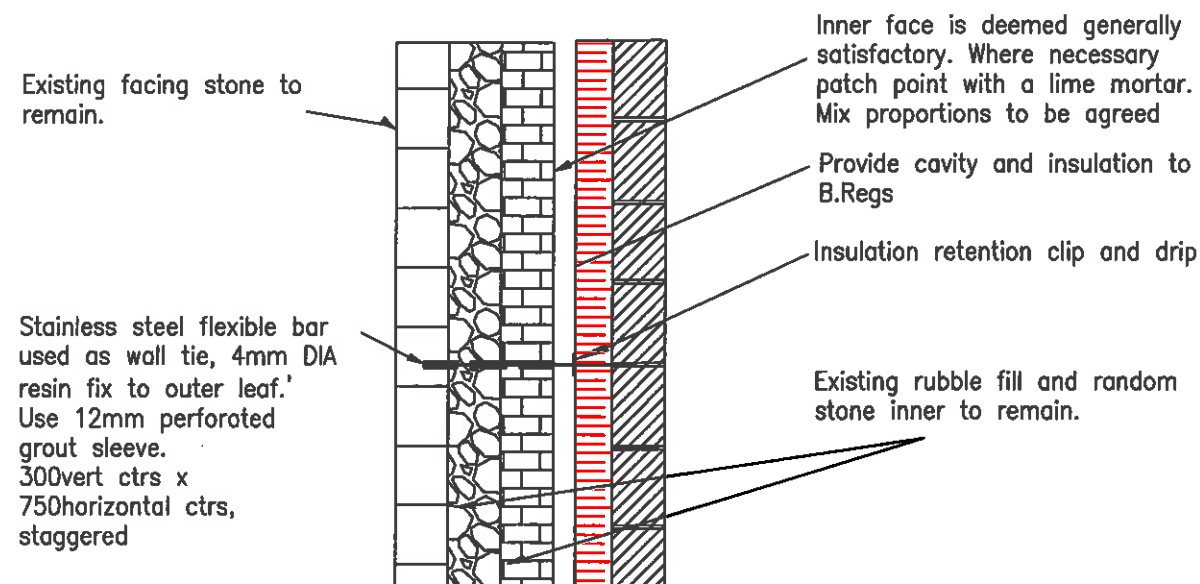


EXISTING REAR ELEVATION @ TIME OF SURVEY

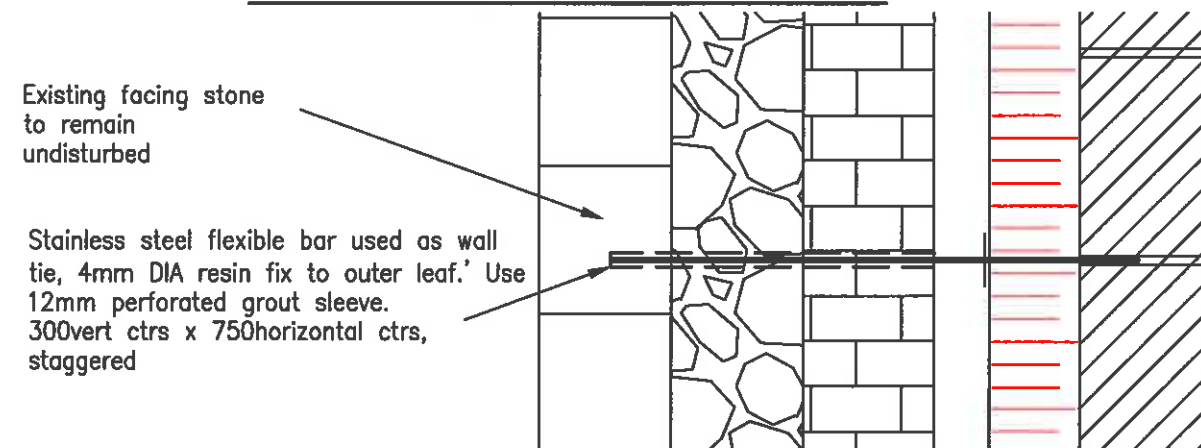
REV	DATE	BY	DETAILS OF REVISION
ARCHITECT / CLIENT MR & MRS D WILDMAN			
PROJECT BRANCH ROAD FARM BRANCH ROAD LITTLEBOROUGH, ROCHDALE			
TITLE PROPOSED DEVELOPMENT CONVERSION OF BARN TO DOMESTIC EXISTING REAR ELEVATION			DRAWN BY PMH DATE 20.05.21 SCALE 1:100@A3 REVISION
DRAWING NO. HC-21314-(60)-02			
HEALEY CONSULTING Brunel House 63 Dale Street Minnow Rochdale OL16 3JU Tel: 01708 343881 Fax: 01708 343881 email: office@healeyconsulting.co.uk copyright: Healey Consulting			 HEALEY consulting structural engineering consultants

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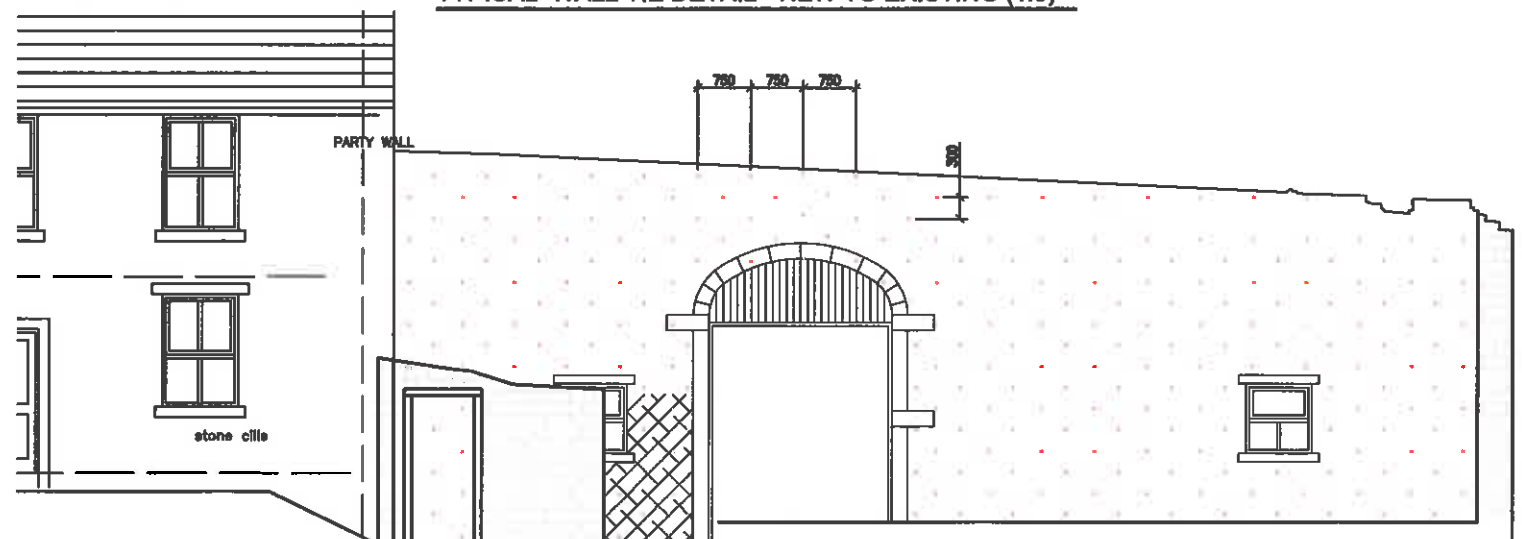
A3 size drawing sheet (382mm x 267mm)



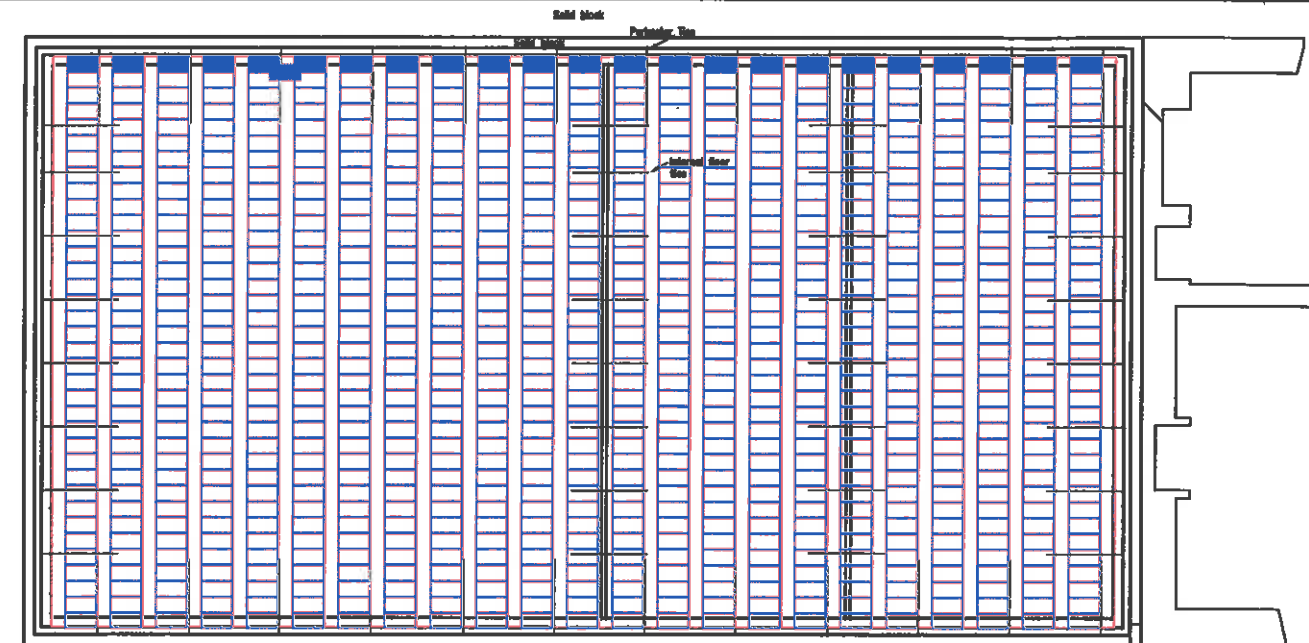
TYPICAL WALL TIE DETAIL - NEW TO EXISTING (1:20)



TYPICAL WALL TIE DETAIL - NEW TO EXISTING (1:5)



EXISTING INNER FACE OF FRONT ELEVATION
SHOWING ARRANGEMENT OF WALL TIES (1:50)



TYPICAL BEAM AND POT PC FLOOR LAYOUT SHOWING THE LOCATIONS (1:100)

Purpose made wall ties from stainless steel HELICAL welded to stainless steel fishtail tie.



PURPOSE MADE WALL TIE DETAIL (1:5)

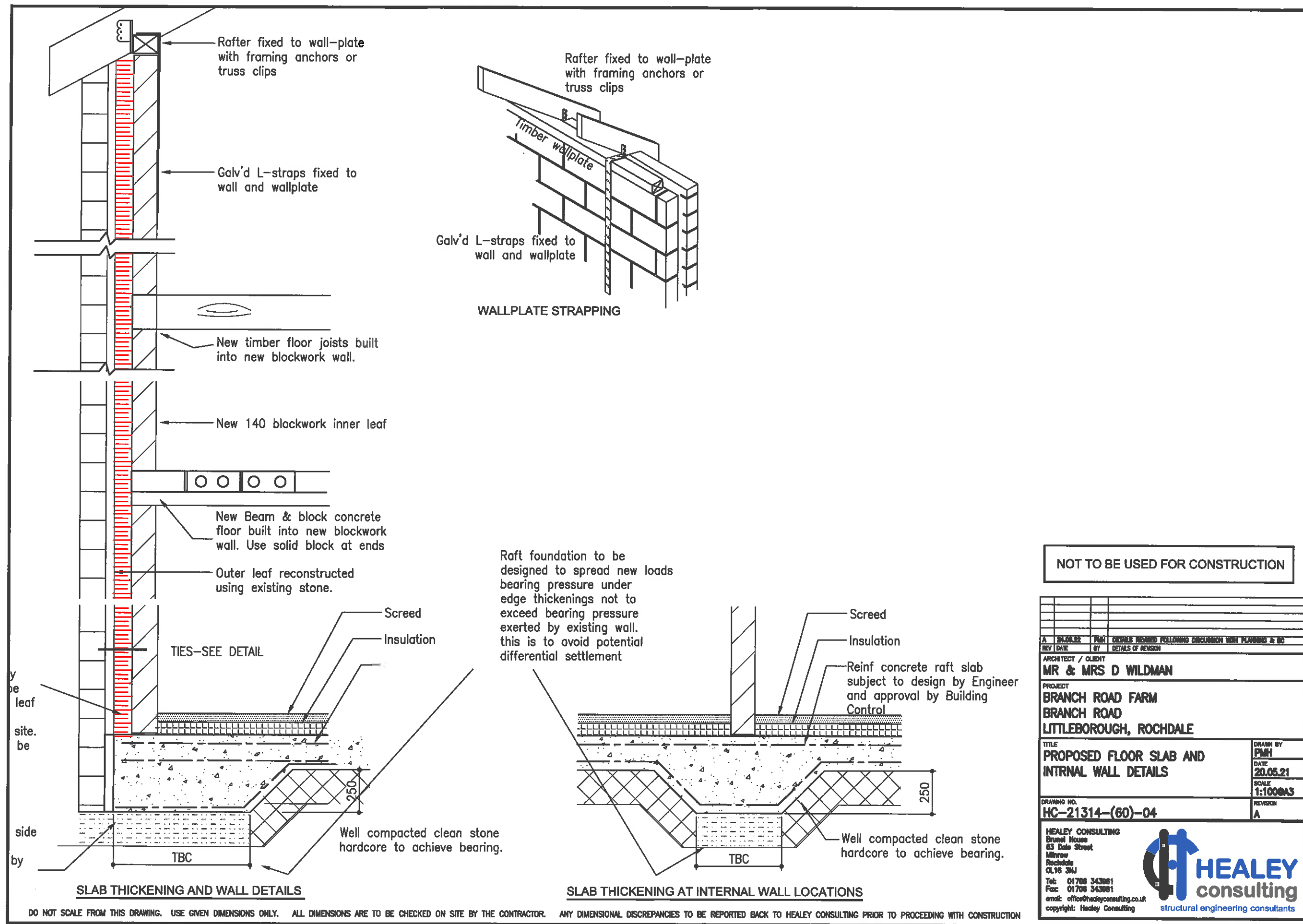
NOT TO BE USED FOR CONSTRUCTION

ARCHITECT / CLIENT		MR & MRS D WILDMAN	
PROJECT		BRANCH ROAD FARM BRANCH ROAD LITTLEBOROUGH, ROCHDALE	
TITLE		PROPOSED FLOOR SLAB AND INTRNAL WALL DETAILS	
DRAWING NO.		HC-21314-(60)-03	
HEALEY CONSULTING		83 Dale Street Widnes Rochdale OL16 3NU	
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A3 size drawing sheet (382mm x 267mm)



ARCHITECT / CLIENT			
MR & MRS D WILDMAN			
PROJECT			
BRANCH ROAD FARM			
BRANCH ROAD			
LITTLEBOROUGH, ROCHDALE			
TITLE			DRAWN BY
PROPOSED FLOOR SLAB AND			PMH
INTRNAL WALL DETAILS			DATE
			20.05.21
			SCALE
			1:1000A3
DRAWING NO.			REVISION
HC-21314-(60)-04			A
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