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STRUCTURAL ENGINEERS REPORT

On

Tunbridge Farmhouse
116 Low Road
Burwell
Cambridge
CB25 0EJ

For

Mr & Mrs Thomas

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Our Ref: 16565

February 2024

Prior Associates is the trading name of Prior Associates (Soham) Ltd,
registered in England, No. 10284146. A list of directors may be seen at our Soham Offices.

Our Conditions of Appointment apply, copies of which may be obtained from our Soham offices

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1. INTRODUCTION

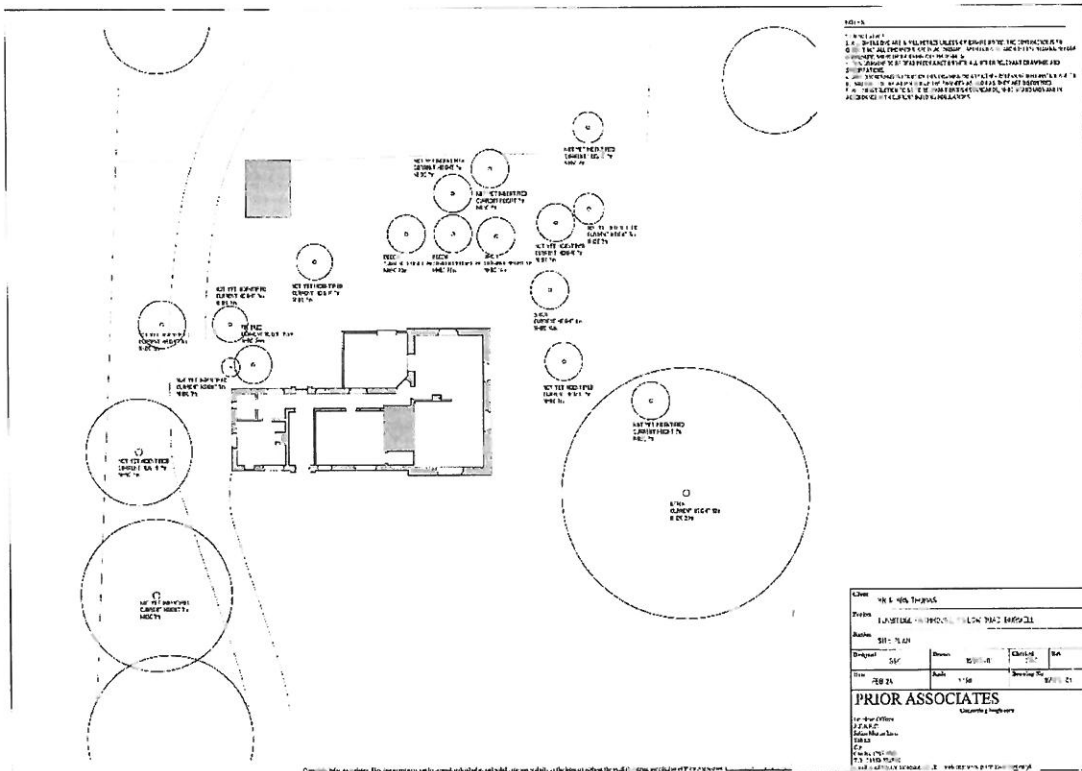
- 1.1 We were instructed by Mr & Mrs Thomas to inspect the property known as Tunbridge Farmhouse, 116 Low Road, Burwell. The purpose of the inspection was to determine what aspects of the building were structurally inadequate and further to specify works to correct the inadequacies.
- 1.2 The property was visited by the author on several occasions, our technician carried out a measured survey of the structural elements but not the building itself and noted trees close to the building. The author's colleague, Tom Cutting, attended a meeting with the Conservation Officer for East Cambridgeshire District Council, Mr Partrick.
- 1.3 As is always the case, particularly with old buildings, as the structure is opened up further deficiencies may come to light that need addressing. Works described here are primarily those that affect the listed building. Where exposure necessitates additional work to the listed building The Conservation officer should be consulted before that work is undertaken
- 1.4 The building is a Listed Building and reference should be made to the Architect's Schedule of Proposed Works to see the description of the Listed Building.
- 1.5 Where possible the numbering system of the Architects Schedule of Work has been used to locate descriptions and where carried out, calculations.
- 1.6 All work and advice given on this project by Prior Associates is in accordance with their Conditions of Appointment, copies of which are attached as Appendix A.

2. FORMAT REPORT

- 2.1 As noted above the Architect's Schedule of Works forms the primary description of the structure and notes many of the defects.
- 2.2 These repairs/replacements are described in our Appendix B. The aim is to retain as much as possible of the existing structure and where changes are made, these are highlighted.
- 2.3 In addition to referring to the Architect's Schedule, additional works have been carried out by this Practice, they are:
 - 2.3.1 Trial pitting to gain some knowledge of existing foundation depth.
 - 2.3.2 Research of suitable materials for main structural elements.
 - 2.3.3 Appraisal of structural elements once the substantial loads of the clinker blockwork partitions at first floor are removed. All new partitions are to be studwork.
 - 2.3.4 Revision of the structurally inadequate main roof.

3. EXISTING FOUNDATIONS

- 3.1 The existing foundations were exposed by trial holes, excavated by our client.
- 3.2 Typically, the foundations were between 300mm and 450mm below ground level. The foundations extended onto the light grey Chalk Marl.
- 3.3 The condition of the building made it impossible to judge whether any distress had been caused by these shallow foundations.
- 3.4 The foundations are much shallower than would be provided for a new building, particularly close to trees. Pasted below is an approximate layout of the trees relative to the building.



3.5 Were this to be a newly erected building, the foundations would be designed in accordance with generally accepted and recognised documents such as NHBC Standards, Chapter 4.2. The Chalk Marl is taken as of medium shrinkage potential. Reproduced below is an extract from NHBC Standards, Chapter 4.2 giving approximate depths of foundations required to meet this document.

19 BUILDING near trees ^{4.10}
CHAPTER 4.2

Table 15: MEDIUM shrinkage soil and MODERATE water demand tree

Broad-leaved trees													Coniferous												
Foundation depth (m)													Foundation depth (m)												
Distance Tree height H (m)													Distance Tree height H (m)												
D (m)	8	10	12	14	16	18	20	22	24	26	28	30	D (m)	8	10	12	14	16	18	20	22	24	26	28	30
1	1.85	1.85	1.90	1.90	1.95	1.95	1.95	1.85	1.95	1.95	1.85	1.95	1.85	1.70	1.75	1.80	1.80	1.85	1.85	1.90	1.90	1.90	1.90	1.90	
2	1.85	1.75	1.80	1.80	1.85	1.85	1.85	1.80	1.90	1.90	1.80	1.90	1.80	1.25	1.40	1.50	1.55	1.65	1.65	1.70	1.75	1.75	1.80	1.80	1.80
3	1.45	1.60	1.65	1.70	1.75	1.80	1.80	1.80	1.85	1.85	1.85	1.85	3	0.90	1.10	1.25	1.35	1.45	1.50	1.55	1.60	1.65	1.65	1.70	1.70
4	1.30	1.45	1.55	1.60	1.65	1.70	1.75	1.75	1.80	1.80	1.80	1.80	4	0.90	0.95	1.10	1.25	1.30	1.40	1.45	1.50	1.55	1.55	1.60	1.60
5	1.10	1.30	1.40	1.50	1.55	1.60	1.65	1.70	1.70	1.75	1.75	1.80	5	0.90	0.90	1.05	1.15	1.25	1.30	1.35	1.40	1.45	1.45	1.50	1.50
6	0.90	1.15	1.30	1.40	1.45	1.55	1.60	1.60	1.65	1.70	1.70	1.75	6	0.90	0.95	1.10	1.15	1.25	1.30	1.35	1.40	1.45	1.45	1.50	1.50
7	0.90	1.00	1.15	1.30	1.40	1.45	1.60	1.65	1.80	1.85	1.85	1.70	7	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
8	0.90	0.90	1.20	1.30	1.35	1.45	1.60	1.65	1.85	1.85	1.80	1.65	8	0.90	0.95	1.10	1.15	1.25	1.30	1.35	1.40	1.45	1.45	1.50	1.50
9	0.90	1.10	1.20	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.60	9	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
10	0.90	0.95	1.10	1.20	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.60	10	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
11	0.90	1.00	1.10	1.20	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.60	11	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
12	0.90	1.05	1.15	1.20	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.60	12	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
13	0.90	0.95	1.05	1.15	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	13	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
14	0.90	1.00	1.10	1.15	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	14	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
15	0.90	1.00	1.10	1.15	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	15	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
16	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	16	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
17	0.90	1.00	1.10	1.15	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	17	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
18	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	18	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
19	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	19	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
20	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	20	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
21	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	21	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
22	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	22	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30
23	0.90	0.95	1.05	1.10	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.60	23	0.90	0.90	1.00	1.00	1.10	1.10	1.15	1.20	1.25	1.25	1.30	1.30

Table 16: MEDIUM shrinkage soil and LOW water demand tree

Broad-leaved trees												
Foundation depth (m)												
Distance Tree height H (m)												
D (m)	8	10	12	14	16	18	20	22	24	26	28	30
1	1.35	1.40	1.40	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.50	1.50
2	1.20	1.30	1.30	1.35	1.35	1.40	1.40	1.40	1.40	1.45	1.45	1.45
3	1.05	1.15	1.20	1.25	1.30	1.30	1.35	1.35	1.35	1.40	1.40	1.40
4	0.90	1.05	1.10	1.20	1.20	1.25	1.30	1.30	1.35	1.35	1.35	1.35
5	0.90	1.00	1.10	1.15	1.20	1.20	1.25	1.25	1.30	1.30	1.30	1.30
6	0.90	1.00	1.05	1.10	1.15	1.20	1.20	1.25	1.25	1.30	1.30	1.30
7	0.90	1.00	1.05	1.10	1.15	1.20	1.20	1.25	1.25	1.30	1.30	1.30
8	0.90	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30	1.30
9	0.90	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30	1.30
10	0.90	0.95	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30
11	0.90	0.95	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30
12	0.90	0.95	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30
13	0.90	0.95	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30
14	0.90	0.95	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30
15	0.90	0.95	1.00	1.05	1.10	1.10	1.15	1.20	1.20	1.25	1.25	1.30

Table 3: Water demand of tree species in relation to their height

High water demand species	Mature height (m)	Moderate water demand species	Mature height (m)	Low water demand species	Mature height (m)
Broad-leaved trees:					
English elm	24	Acacia (False)	18	Birch	14
Wheatley elm	22	Alder	18	Elder	10
Wych elm	18	Apple	10	Fig	8
Eucalyptus	18	Ash	23	Hazel	8
Hawthorn	10	Bay laurel	10	Holly	12
English oak	20	Beech	20	Honey locust	14
Holm oak	16	Blackthorn	8	Hornbeam	17
Red oak	24	Japanese cherry	9	Laburnum	12
Turkey oak	24	Laurel cherry	8	Magnolia	9
Hybrid black poplar	28	Orchard cherry	12	Mulberry	9
Lombardy poplar	25	Wild cherry	17	Tulip tree	20
White poplar	15	Horse chestnut	20		
Crack willow	24	Sweet chestnut	24		
Weeping willow	16	Lime	22		
White willow	24	Japanese maple	8		
		Norway maple	18		
		Mountain ash	11		
		Pear	12		
		Plane	26		
		Plum	10		
		Sycamore	22		
		Tree of heaven	20		
		Walnut	18		
		Whitebeam	12		
Coniferous trees:					
Lawson's cypress	18	Cedar	20		
Leyland cypress	20	Douglas fir	20		
Monterey cypress	20	Larch	20		
		Monkey puzzle	18		
		Pine	20		
		Spruce	18		
		Wellingtonia	30		
		Yew	12		

Tree identification can be assisted by reference to a tree recognition book. Information may be obtained from suitable alternative authoritative sources for trees not listed in this chapter.

When the species is known but the subspecies is not, the greatest height listed for the species should be assumed.

Where hedgerows contain trees, their effect should be assessed separately and the height of the species likely to have the greatest effect should be used.

- 3.6 Conservation Officers resist the specification of underpinning to historic buildings as it is not in keeping with the conservation theme. Here, we would expect to see movement in the foundations where they are so shallow. This movement is likely to be, dependent on the climate conditions, Category 2-3 of the definitions in BRE Digest 251. A copy of the relevant table from that table is pasted below.

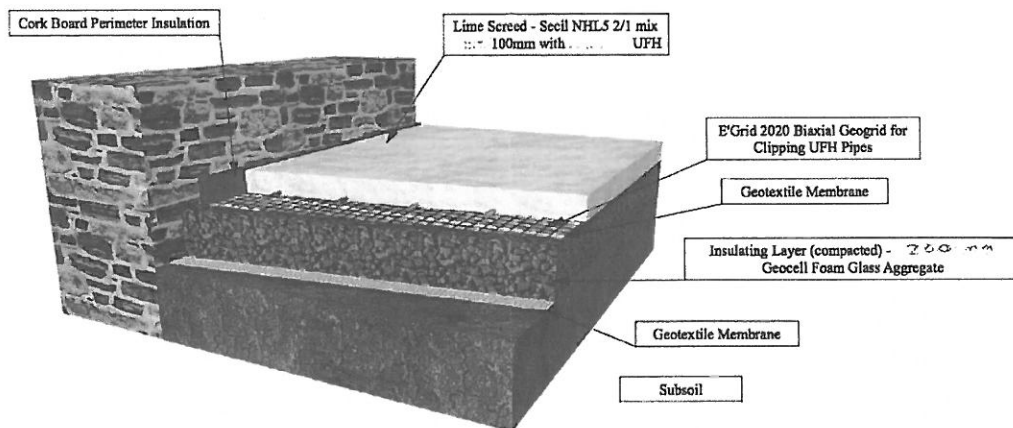
Table 1 Classification of visible damage to walls with particular reference to ease of repair of plaster and brickwork or masonry <i>Crack width is one factor in assessing category of damage and should not be used on its own as a direct measure of it.</i>	
Category of damage	Description of typical damage <i>Ease of repair in italic type</i>
0	Hairline cracks of less than about 0.1 mm which are classed as negligible. No action required.
1	Fine cracks which can be treated easily using normal decoration. Damage generally restricted to internal wall finishes; cracks rarely visible in external brickwork. Typical crack widths up to 1 mm.
2	Cracks easily filled. Recurrent cracks can be masked by suitable linings. Cracks not necessarily visible externally; some external repointing may be required to ensure weather-tightness. Doors and windows may stick slightly and require easing and adjusting. Typical crack widths up to 5 mm.
3	Cracks which require some opening up and can be patched by a mason. Repointing of external brickwork and possibly a small amount of brickwork to be replaced. Doors and windows sticking. Service pipes may fracture. Weather-tightness often impaired. Typical crack widths are 5 to 15 mm, or several of, say, 3 mm.
4	Extensive damage which requires breaking-out and replacing sections of walls, especially over doors and windows. Windows and door frames distorted, floor sloping noticeably*. Walls leaning or bulging noticeably*, some loss of bearing in beams. Service pipes disrupted. Typical crack widths are 15 to 25 mm, but also depends on number of cracks.
5	Structural damage which requires a major repair job, involving partial or complete rebuilding. Beams lose bearing, walls lean badly and require shoring. Windows broken with distortion. Danger of instability. Typical crack widths are greater than 25 mm but depends on number of cracks.
* Local deviation of slope, from the horizontal or vertical, of more than 1/100 will normally be clearly visible. Overall deviations in excess of 1/150 are undesirable.	

Table reproduced from Building Research Establishment document 251: *Assessment of damage in low-rise buildings with particular reference to progressive foundation movement* (BRE 1995)

- 3.7 The movement is likely to affect serviceability states rather than cause major distress.
- 3.8 If the degree of movement is greater than the building owner is prepared to tolerate, consideration would need to be given to the removal of trees. This would need to be done sympathetically to avoid heave.
- 3.9 Like Conservation officers, we do not consider underpinning as a suitable solution for this property.
- 3.10 We are currently considering whether a root barrier to the west side has any merit. Our findings will be set out in a future letter report.

4. GROUND FLOOR SLAB

- 4.1 Our client wishes to provide underfloor heating and in turn insulate the slab. To do this the existing slab will need to be removed. This slab varies in construction and uses cement based materials without addressing the management of damp.
- 4.2 We propose that a new replacement slab should be installed.
- 4.3 A section through the floor is pasted below. The construction will consist of a 100mm lime screed over 200mm insulating layer of Geocell Foam Glass Aggregate. The 200mm is advised by the architect and he notes that this will not fully comply with current Building Regulations but is a reasonable compromise for a Listed Building.



- 4.4 Reference back to paragraph 3.2 indicates that 300mm slab construction starting 150mm above ground level should not undermine any foundations. However, having excavated out the floor area further trial holes should be dug at no more than 1.5 metre centres to ensure that no foundation is undermined.
- 4.5 Detailing to address the damp control are contained in the Architect's package.

5. GROUTING OF CLUNCH WALLS

- 5.1 A product named Coulinex based on NHL 3.5 has been developed without the use of cement or similar as an addition. This lime based material can be used on its own or with the addition of sand, the latter if voids are large.
- 5.2 The water addition is defined by the amount of Coulinex used and the fluidity required.
- 5.3 When grouting porous materials such as Clunch, clean water should be used first to reduce the suction and to avoid the risk of blocking some voids with grout, thus it would not fill the whole of the grouted area. The grouting should be done slowly and with care, making sure that there is no free water in the cavity. This can be done by making a small hole in a joint in the Clunch at the bottom of the grouted area. If water pours out, the addition of water should be stopped and whole operation paused until the water is absorbed by the Clunch.
- 5.4 Coulinex can be applied by gravity or by pump with a very low pressure. With Clunch it is probably best to use a pump with a very low pressure. Trial areas should be carried out first with area broken out to see which technique is best.

We recommend the use under padstones and that the grout starts at least 2.0 metres below the padstone position. Grouting should commence from the base upwards. The grouting should extend to above the underside of the padstone, such that when the padstone is cut, the grouting can be checked.

- 5.5 Other manufacturers make similar materials to Coulinex and a substitute can be used subject to having the same characteristics as this material.

6. INSTALLATION OF STEEL BEAMS TO EXISTING AND GENERAL ADVICE

- 6.1 All construction to relevant British Standards, Building Regulations and where applicable NHBC Standards.
- 6.2 Before starting work the Builder is to check by opening up, if necessary, the assumed loadings including the spans of roofs and floors and the condition of masonry to take padstones.
- 6.3 The design and installation of temporary works is the responsibility of the Builder. Prior Associates will review temporary works design and installation only if specifically instructed to do so.
- 6.4 All new supporting masonry and engineering brick padstones are to be built in 1:3 cement-sand mortar with an approved anti-shrink compound for the mortar. Unless noted otherwise the minimum bearing of steels onto padstones is to be 100mm.
- 6.5 Load transfer is to be achieved using folding hardwood wedges and then packed up using slate and 1:3 cement-sand mortar with an approved anti-shrink compound.
- 6.6 The Builder shall produce for his own use a method statement for the safe installation of the steel beams. This method statement shall take account of all temporary propping required and shall define the safe lifting and installation of the beams bearing in mind and complying with current Health & Safety guidance.
- 6.7 Detailed guidance is available on support in BRE Good Repair Guide 25.
- 6.8 All twin steels must be bolted together using M10 bolts and gas tube spacers to suit the width of the wall above. The bolts should be spaced at 450 centres and staggered above and below the centreline of the beam.



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Gerry Cutting, BSc, CEng, FICE
For and on behalf of Prior Associates

APPENDIX A

Conditions of Appointment

CONDITIONS OF APPOINTMENT

1. The terms of our Appointment shall be governed by these Conditions of Appointment unless otherwise agreed by us in writing. Unless we hear to the contrary within the next seven days, these terms shall be deemed acceptable to you and our relationship shall proceed on this basis. The seven day period is for individually negotiated terms. At the expiry of the seven days the terms of this contract shall be deemed to be individually negotiated as defined by the Unfair Terms in Consumer Contracts Regulations 1999. Any clauses which are found to be or deemed to be inoperative do not affect the rest of the agreement.
2. **Services to be Performed ("Services").** Details of your stated Requirements and the Services which we will provide to fulfil those Requirements under this Agreement are as our fee quotation letter or our records of other communication. Unless described on our invoice we have not provided that service. If additional services become necessary or are required by you, additional fees will be payable. Additional services need only be described when the fee invoice is prepared. Where the Staff act as an Expert in any matter, the Model Terms of Engagement published by the Expert Witness Institute shall apply in addition to these conditions but Prior Associates Conditions of Appointment shall take precedence.
3. **Duty of Care.** We agree to exercise all reasonable skill, care and diligence in the performance of the Services and shall discharge our duties in a timely manner provided we receive all necessary data and information within a reasonable time. All of the services and all of our obligations under our Conditions of Appointment shall be subject to the exercise of such reasonable skill, care and diligence and every clause in these Conditions of Appointment shall be deemed to be subject to the exercise of reasonable skill, care and diligence. We shall have no liability to you, whether in contract, tort or otherwise, unless there is a breach of this obligation to exercise reasonable skill, care and diligence. The Client shall hold the Principal Contractor and/or other contractors appointed to undertake construction works and not Prior Associates responsible for the management and operation methods, for the proper carrying out and completion of the Works in compliance with the Building Contract and all relevant Building Legislation without prejudice to Clause 4.5 and for health and safety provisions on the Site.
4. **Terms of Appointment.**
 - 4.1 Our Services are personal to you and shall be limited to those matters expressly stated herein. No advice is offered or implied with regard to asbestos, its presence, effects or any actions required by the Client with relation to asbestos.
 - 4.2 We will only undertake inspection of the works if expressly stated. Unless otherwise agreed in writing, inspections will be limited to periodic visits to the Works in order to check that they are proceeding generally according to our design intention provided that this duty shall not include any responsibility for the quality of materials or workmanship.
 - 4.3 If it becomes clear that additional consultants or specialists are required then they will be directly appointed by you. However, if so instructed, we will act as your agent (disclosing you as principal) in the appointment of such consultants or specialists after receiving your prior approval.
 - 4.4 Where consultants or specialists are appointed either directly or by us as your agents, we will co-ordinate and integrate their work, only if requested by you, but cannot accept any responsibility whatsoever for the performance of their duties.
 - 4.5 As defined by the Construction (Design & Management) Regulations 2015 we act as Designers only for our element of the Works. We undertake to make available reasonable information as required by your Principal Designer as and when requested by him to do so. Our designs are based on the employment of a competent contractor to carry out the Works. As our client you must make yourself aware of your duties to all parties under CDM regulations. Unless specifically instructed in writing we will not act as Principal Designer.
 - 4.6 Subject to Clause 4.7 our maximum liability hereunder shall be limited to the reasonable cost of repair arising from any defect in the Works by reason of our breach of duty hereunder and shall exclude any other economic or financial loss whatsoever provided always that any liability for personal injury or death resulting from our or our employees' negligence shall not be excluded. This maximum liability is reduced to a lesser amount if that lesser amount is prescribed by law. Unless agreed otherwise in writing our maximum liability is further restricted to 20 times our fee received for that project or the maximum cover provided by our Professional Liability Insurers whichever is less.
 - 4.7 Our liability for repair costs hereunder shall be limited to that proportion of your losses which it would be just and equitable to require us to pay having regard to the extent of our responsibility for the same and on the basis that the Contractor and all consultants and specialists appointed in relation to the Works shall be deemed to have provided contractual undertakings on terms no less onerous than ours in respect of the performance of their services in relation to the Works and shall be deemed to have paid you such proportion which it would be just and equitable for them to pay having regard to the extent of their responsibility.
 - 4.8 Notwithstanding the foregoing paragraphs 4.1 to 4.7 of these Conditions of Appointment, Prior Associates shall not be liable for any losses incurred by the Client, or his successors, in respect of pollution or contamination and/or arising out of or in connection with pollution or contamination.
 - 4.9 Further and notwithstanding anything to the contrary contained in these Conditions of Appointment and without prejudice to any provision in these Conditions of Appointment whereby liability is excluded or limited to a lesser amount, any liability under or in connection with the Conditions of Appointment, whether in contract or in tort, for breach of statutory duty or otherwise, for any claim for loss or damage wholly, partly, directly or indirectly arising out of or resulting from or associated in any way with asbestos or any product or waste that contains asbestos (including without limitation the costs of testing for, monitoring, abatement, mitigation, removal, remediation or disposal of any asbestos or product or waste that contains asbestos) shall not exceed the amount, if any, recoverable by Prior Associates by way of indemnity against the claim in question under professional indemnity insurance taken out by Prior Associates and in force at the time the claim or the circumstances giving rise to the claim is notified to and accepted by the insurer in question.
 - 4.10 No action or proceedings under or in respect of these Conditions of Appointment whether in contract or in tort or for breach of statutory duty or otherwise shall be commenced against Prior Associates after a date six calendar years from the date of our instruction or such earlier date as may be prescribed by law.
 - 4.11 Prior Associates is not responsible under these Conditions of Appointment or otherwise for designing or advising on or otherwise taking measures to prevent or mitigate the effect of Terrorism or any action that may be taken in controlling preventing suppressing or in any way relating to Terrorism and Prior Associates shall have no liability under or in connection with these Conditions of Appointment whether in contract or in tort, in negligence, for breach of statutory duty or otherwise for any claim arising out of any consequences whatsoever resulting directly or indirectly from or in connection with Terrorism or any such action (regardless of any other contributory cause or event) save to the extent that the claim is covered by professional indemnity insurance taken out by Prior Associates and in force at the time the claim or the circumstances giving rise to the claim is notified to and accepted by the insurer in question.
In this clause "Terrorism" shall mean any act or acts including but not limited to (i) the use or threat of force and/or violence, and/or (ii) harm or damage to life or to property (or the threat of such harm or damage) including but not limited to harm or damage by nuclear and/or chemical and/or biological and/or radiological means caused or occasioned by any person(s) or group(s) of persons or so claimed in whole or in part for political religious ideological or similar purposes.
 - 4.12 Prior Associates is not responsible under these Conditions of Appointment or otherwise for warning about or preventing or mitigating any loss or damage wholly or partly arising out of, resulting from or caused or contributed to directly or indirectly, by or associated in any way with any fungus or spore or any substance, vapour or gas produced by or arising out of any fungus or spore and shall have no liability under or in connection with these Conditions of Appointment whether in contract or in tort, in negligence, for breach of statutory duty or otherwise for any claim for such loss or damage (including without limitation the costs of testing for, monitoring, abatement, mitigation, removal, remediation or disposal of any fungus or spore) save to the extent that the claim is covered by professional indemnity insurance taken out by the Consultant and in force at the time the claim or the circumstances giving rise to the claim is notified to and accepted by the insurer in question. For the purpose of these Conditions of Appointment, the term "fungus" includes (but is not limited to) any form or type of mould, mushroom or mildew and the term "spore" means any reproductive body produced by or arising out of any fungus.
 - 4.13 Our services will continue until Practical Completion of the Works or earlier as described above or until our Conditions of Appointment is terminated by reasonable notice given to either side.
 - 4.14 In respect of the Services, you will pay us fees and expenses as our invoice, in the absence of a formal fee quote our charges as assessed at our hourly rates. Prior Associates grant to you a licence to use all documents, design details, etc., that are issued to you or your agents. You may not withhold or reduce any sum payable to Prior Associates by reason of any claims or alleged claims against Prior Associates. All rights of set-off which you may otherwise exercise in common law are hereby expressly excluded.
 - 4.15 Copyright in all designs, drawings, models, plans, specifications, design details, photographs, brochures, reports, notes of meetings, and any other documents or Materials provided by Prior Associates ("the Materials") shall remain invested throughout in Prior Associates. Prior Associates grant you, subject to payment of all outstanding fees, a royalty-free, non-exclusive licence to use the Materials for all purposes relating to the project to which the Conditions of Appointment relates. Prior Associates shall have no liability for any use of the Materials other than that for which the same were originally prepared and provided. The licence granted does not permit the reproduction or copying by any means of any Materials. No Materials may be published in any form including uploading to any website without Prior Associates' written permission.
 - 4.16 Where Prior Associates is requested to provide warranties or enter into other third party agreements and the terms of these documents have not already been agreed Prior Associates is prepared to negotiate the terms of such documents and the additional fee that should be paid to Prior Associates for entering into them. The Client shall not withhold payment of fees pending agreement to such documents.
 - 4.17 Prior Associates can accept no liability whatsoever for the transmission of any viruses or other cyber based hazard. Further Prior Associates may restrict access to its websites and mail service at its own discretion.
 - 4.18 Unless specifically agreed in writing Prior Associates will use reasonable endeavours to retain information for 10 years from the date of instruction. This information may be retained in either electronic or paper form at the discretion of Prior Associates.
 - 4.19 No claims may be pursued against an individual employee and each individual employee of Prior Associates shall have no personal liability for his actions on behalf of Prior Associates. This clause does not exclude employee liability for criminal action.
 - 4.20 Any dispute or difference arising out of this Agreement shall be governed by and construed in accordance with English law and both parties agree to submit to the exclusive jurisdiction of the English Courts. If any dispute is referred to adjudication under The Housing Grants, Construction and Regeneration Act 1996, the Adjudicator's decision is to be based on legal not commercial grounds and is to refer to these standard conditions. The Adjudicator's decision is not to be final and binding.
 - 4.21 These Conditions of Appointment contain the whole agreement between us and supersedes any other statements made. Nothing in these Conditions of Appointment confers or purports to confer on any Third Party any benefit or any right to enforce any term of these Conditions of Appointment.

(dated 6th June 2011)
(updated 6th April 2015)
(updated 18th January 2016)

APPENDIX B

Commentary on Architects schedule of proposed works

16565 - Tunbridge Farmhouse, 116 Low Road, Burwell

Commentary on Architects schedule of proposed works. This is a live document and will be updated as further information is available.

The numbering is as the architect's schedule. This commentary should be read in conjunction with the architect's schedule.

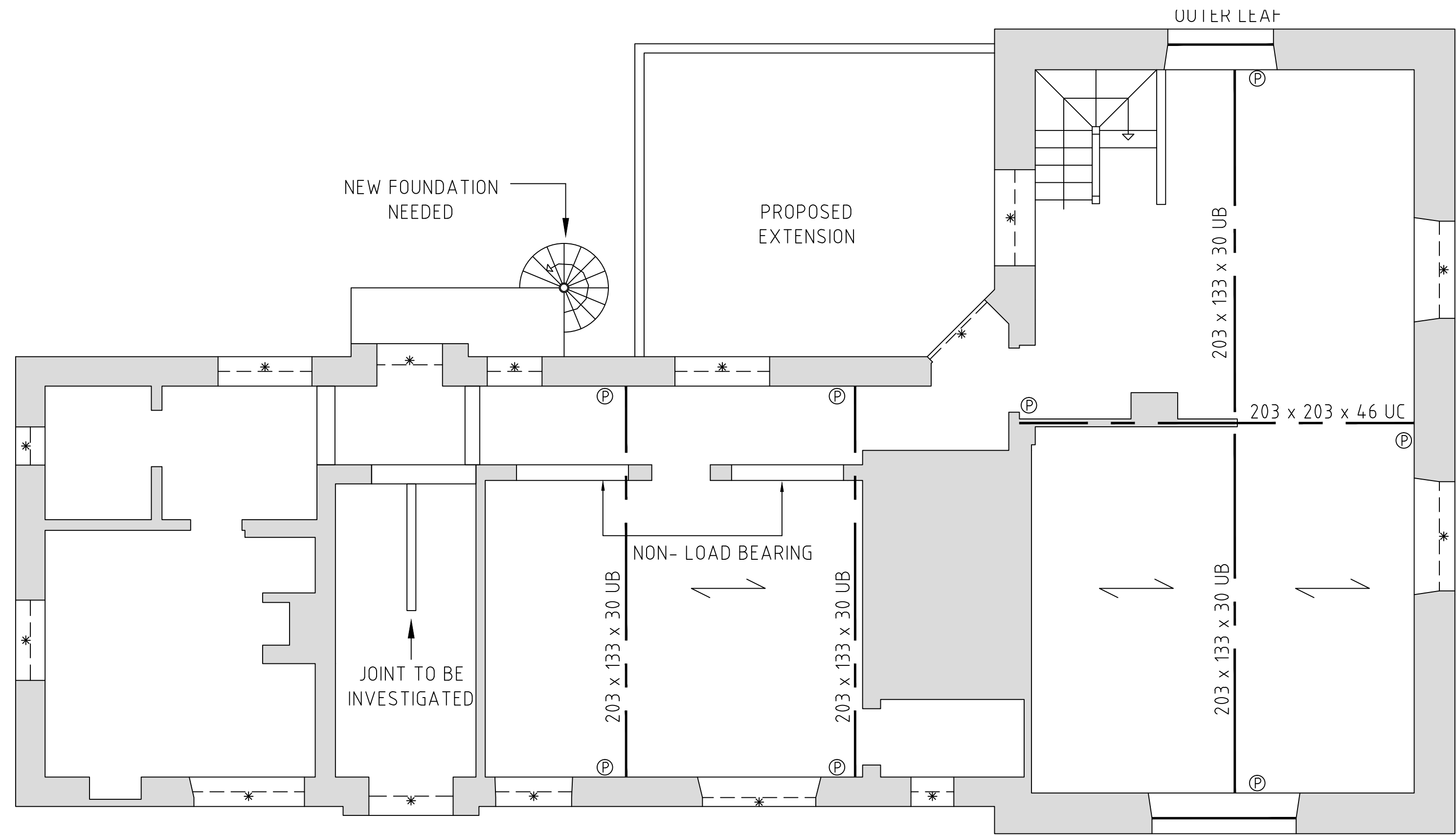
- 1.1 See floor specification.
- 1.2 Open joint to rear of transverse beam to be investigated during works with strengthening brackets if necessary. See photo below.



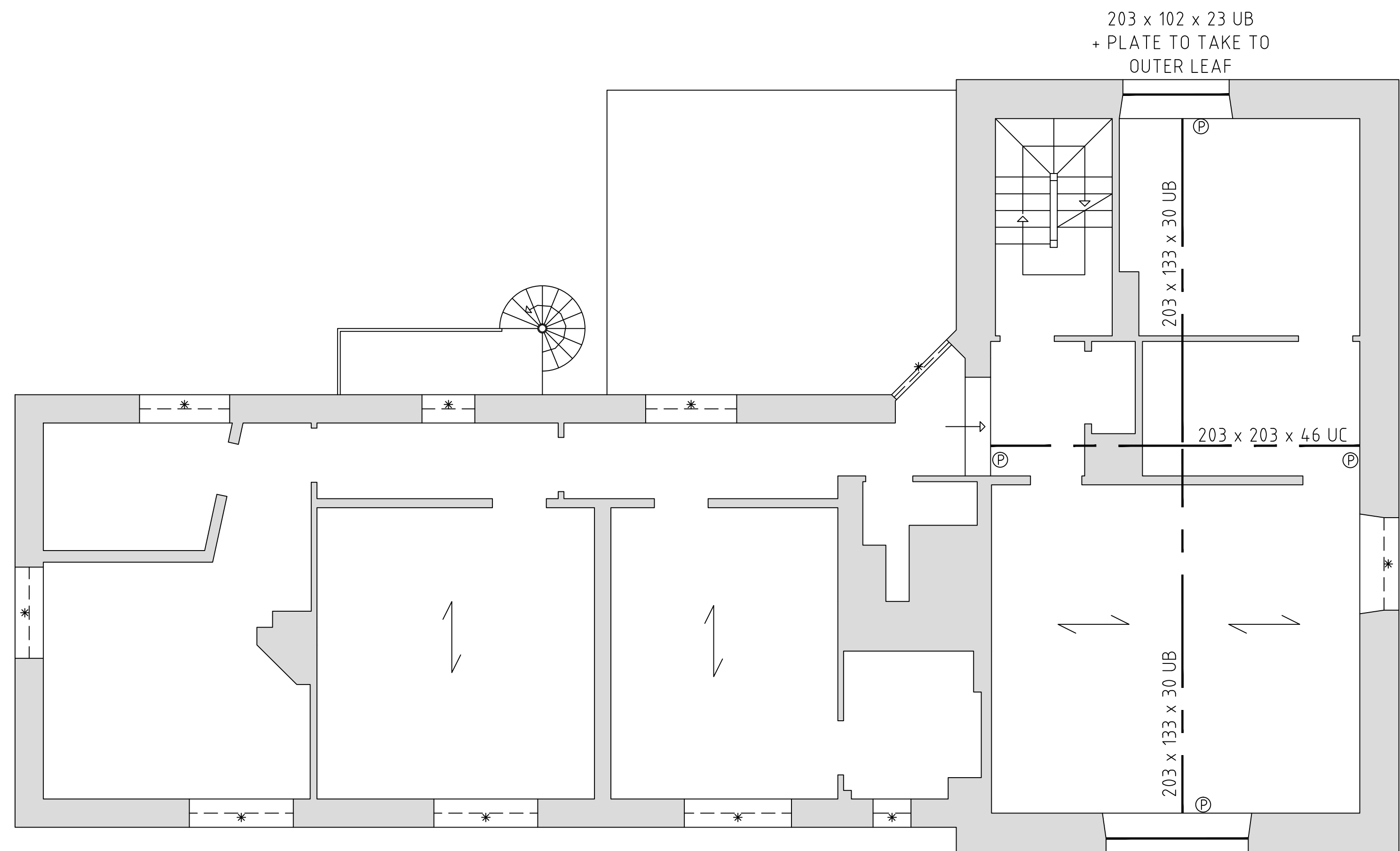
- 2.1 See floor specification – See Section 4.
- 2.6 Initial impression is that these beams could be retained but the bearings need to be exposed to check for deterioration.
- 3.1 See floor specification – See Section 4.
- 3.4 Existing beams are thought to be satisfactory to be retained for the liming infill. The main transverse beam to be replaced with steel clad to seat historic building, see architect detail for cladding.
- 4.2 See floor specification – See Section 4.
- 4.4 Existing beams in poor condition. Provide steel work to replace as per detail drawing. Steel work to be clad to give thirty minutes fire resistance.
- 4.5 See detailed structural drawing for trimming to new stair opening.
- 5.1 See floor specification – See Section 4.
- 5.4 Existing beams in poor condition. Provide steel work to replace as per detail drawing. Steelwork to be clad to give thirty minutes fire resistance.

- 5.5 See detailed structural drawing for new lintels. All timber lintels to be replaced with Catnic Box Lintels. See detail on drawing.
- 6.1 See floor specification – See Section 4.
- 7.1 See floor specification – See Section 4.
- 8.1 See floor specification – See Section 4.
- 8.2 See detailed drawings.
- 9.1 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 9.3 See detailed drawings.
- 9.4 Loads to existing floor reduced but deflection unlikely to recover. New structure provided as detailed drawings.
- 10.1 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 10.2 See detailed drawings.
- 11.1 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 11.2 See detailed drawings.
- 11.4 See detailed drawings.
- 12.1 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 12.2 See detailed drawings.
- 13.1 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 13.2 See detailed drawings.
- 13.3 See detailed drawings.
- 14.1 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 14.2 See detailed drawings.
- 15.2 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced. 15.3 See detailed drawings.
- 16.2 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 16.3 See detailed drawings.
- 17.1 See detailed drawings.
- 17.2 See architect's details.

- 17.3 Where possible existing floor joists will be retained. However, for the purposes of Listed Building Consent, could we assume that all floor joists will be replaced.
- 18.1 See structural specialist drawings.
- 18.2 See structural specialist drawings.
- 18.3 See structural specialist drawings.
- 18.4 See structural specialist drawings.
- 18.5 See structural specialist drawings.
- 19.1 See structural specialist drawings.
- 20.1 For assessment of foundations see Section 3 of main report.
- 20.2 For spiral staircase see drawings for new foundation to replace 'brick'. Entire staircase to be cleaned down to bare metal and paint system provided to give minimum 20 year life before repaint.



GROUND FLOOR LAYOUT SHOWING STRUCTURAL DETAILS OVER



FIRST FLOOR LAYOUT SHOWING STRUCTURAL DETAILS OVER

NOTES

1. DO NOT SCALE.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED. THE CONTRACTOR IS TO CHECK THAT ALL DIMENSIONS ARE IN ACCORDANCE WITH CURRENT ARCHITECT'S DRAWING BEFORE COMMENCING WORK OR ORDERING ANY MATERIALS.
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
4. ANY DISCREPANCIES FOUND ON THIS DRAWING OR ANY OTHER RELEVANT INFORMATION ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER AS SOON AS THEY ARE DISCOVERED.
5. ALL CONSTRUCTION TO BE TO RELEVANT BRITISH STANDARDS, NHBC STANDARDS AND IN ACCORDANCE WITH CURRENT BUILDING REGULATIONS.

ADDITIONAL NOTES

6. ALL STEEL GRADE S275. ALL BOLTS TO GRADE 8.8. ALL WELDS TO BE ELECTRODE CLASSIFICATION 35. INTERNAL AND EXTERNAL STEELWORK THAT HAS NOT BEEN GALVANISED SHOULD BE PROTECTED WITH AT LEAST TWO COATS OF ZINC PHOSPHATE PRIMER, AND A SUITABLE DECORATIVE FINISH WHERE REQUIRED.
7. FIRE PROTECTION TO STEEL IN ACCORDANCE WITH BUILDING REGULATIONS AND TO ARCHITECTS DETAILS. ALL NEW STEELWORK TO HAVE min. 1 HOUR FIRE PROTECTION ALL ROUND, SUGGEST 2 LAYERS 12.5mm PLASTERBOARD WITH JOINTS STAGGERED AND EXPOSED JOINTS TAPED AND FILLED.
8. SEE REPORT SECTION 8 FOR METHOD OF STEEL BEAM INSTALLATION.

KEY

- REPLACE TIMBER LINTELS WITH CATNIC BOX AS NOTED ON DRAWING TO MANUFACTURER'S DESIGN AND SPECIFICATION. POINT LOADS FROM BEAMS AS NOTED ON PLAN.
- INDICATES POSITION OF 450 LONG x 150 DEEP x 100 WIDE CLASS B ENGINEERING BRICK PADSTONE. PROVIDE min. 100mm LONG BEARINGS TO STEELS. WHERE BEARING IS OVER LINTEL ENGINEERING BRICK PADSTONE TO EXTEND DOWN TO TOP OF LINTEL IF DEPTH LESS THAN NOTED FOR PADSTONES ABOVE. WHERE PADSTONE ONTO CLUNCH, GROUT AS REPORT SECTION 5.
- SPAN OF COMMON TIMBERS

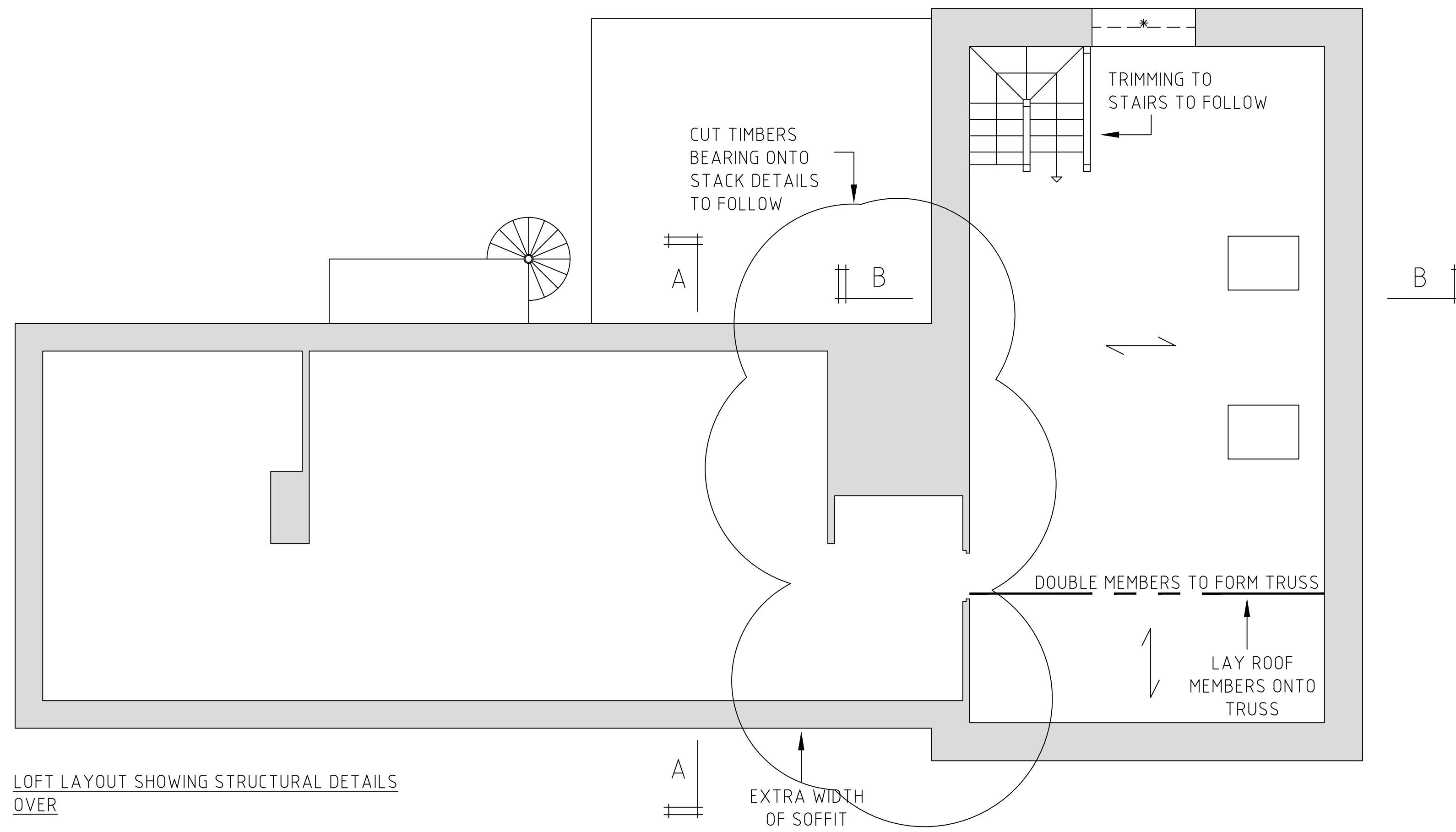
REFER TO SECTION 4 OF MAIN REPORT FOR GROUTING UNDER PADSTONES

ISSUED FOR PLANNING APPLICATION

A	26/02/24	CS	AMENDMENTS TO NOTES KEY AND ISSUED FOR PLANNING	
Client	MR & MRS THOMAS			
Project	TUNBRIDGE FARM, 116 LOW ROAD, BURWELL			
Section	SUPERSTRUCTURE PLAN			
Designed	GSC	Drawn	CS	Checked GSC
Date	FEB 24	Scale	1:50	Rev A
		Drawing No	16565-02	

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LOFT LAYOUT SHOWING STRUCTURAL DETAILS OVER

NOTES

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ADDITIONAL NOTES

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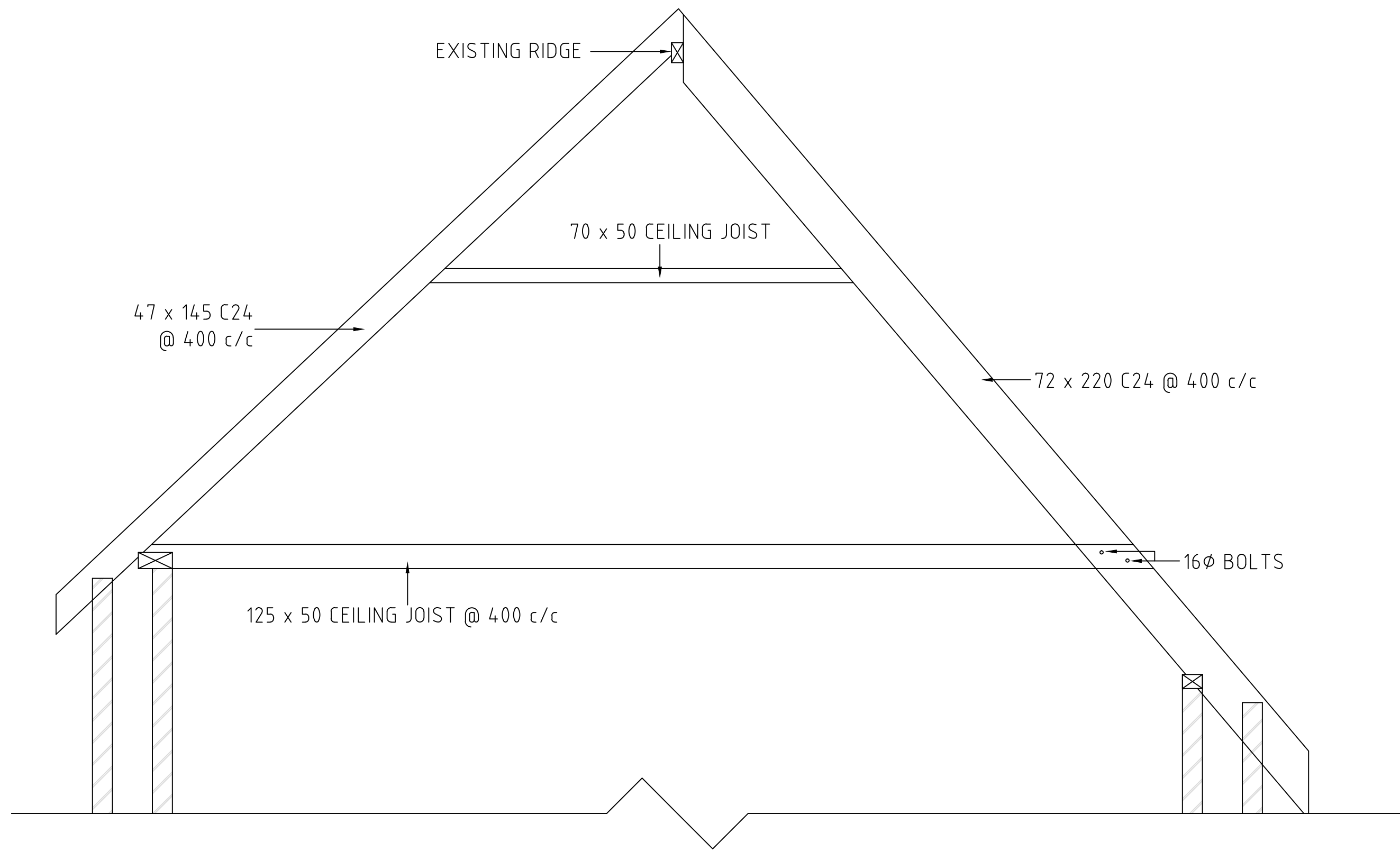
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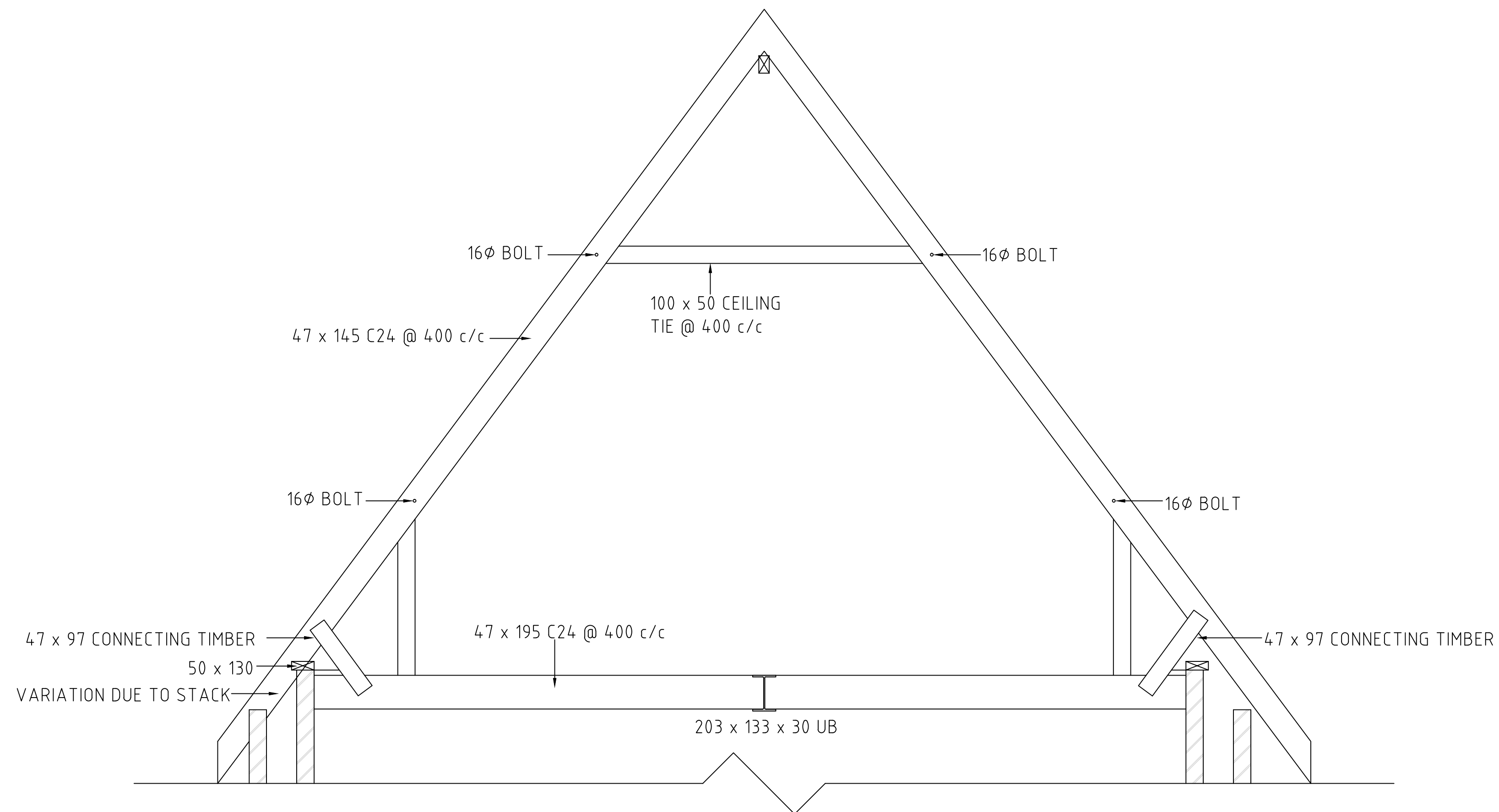
ISSUED FOR PLANNING APPLICATION

A	26/02/24	CS	AMENDMENTS TO NOTES KEY AND ISSUED FOR PLANNING	
Client		MR & MRS THOMAS		
Project		TUNBRIDGE FARM, 116 LOW ROAD, BURWELL		
Section		SUPERSTRUCTURE PLAN		
Designed	GSC	Drawn	CS	Checked GSC
Date	FEB 24	Scale	1:50	Rev A
		Drawing No	16565-03	

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SECTION A-A



SECTION B-B

NOTES

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ISSUED FOR PLANNING APPLICATION

B	26/02/24	CS	ISSUED FOR PLANNING
A	23/02/24	CS	AMENDMENTS
Client MR & MRS THOMAS			
Project TUNBRIDGE FARM, 116 LOW ROAD, BURWELL			
Section LOFT SECTIONS			
Designed	GSC	Drawn	CS
		Checked	GSC
		Rev	B
Date	FEB 24	Scale	1:20
		Drawing No	16565-04

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