TOPPING ENGINEERS

CONSULTING CIVIL & STRUCTURAL ENGINEERS

STRUCTURAL INSPECTION REPORT

LOCATION:

Fleece Farm, South Crossland,
Kirklees

CLIENT:

Peacock and Smith

DOCUMENT REF:
25294-SIR-001

REVISION/DATE:
23rd July 2025

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Revision	Description	Date	Author	Checked
A	First Issue	23.07.25	A.BSK	DT

1.0 BRIEF

Acting on instruction from Peacock & Smith, Topping Engineers carried out an inspection of the existing agricultural buildings at Fleece Farm, South Crossland, Kirklees. The site visit was conducted on Friday, 18th July 2025.

The primary objective of the inspection was to assess the current condition of the barns and evaluate their suitability for conversion to residential accommodation. The inspection was non-intrusive and limited to elements that were visible and accessible at the time of the visit.

2.0 DESCRIPTION

The site is located off Church Lane in Huddersfield. The building is accessed through a private track, which is wide enough for vehicular access.

The conversion proposals are shown on architects drawings (ref ODS_24/943 - (20)001 dated 19/03/25) and show the structural form of the buildings are fully retained and the external facing columns remain visible externally. The external facades retain the appearance of concrete panelling to the lower section and profiled cladding to the upper section. Window and door openings are formed in the external facades and internal partitions with partial first floors are formed internally.

With the requirement for residential accommodation to be well insulated then accordingly, the façade materials would be upgraded whilst retaining the full primary steel frame. The portal frame construction offers a good opportunity for a flexible upper floor layout where the first floor walls are not required to support the roof.

Figure 2-1 Site Location Ariel View

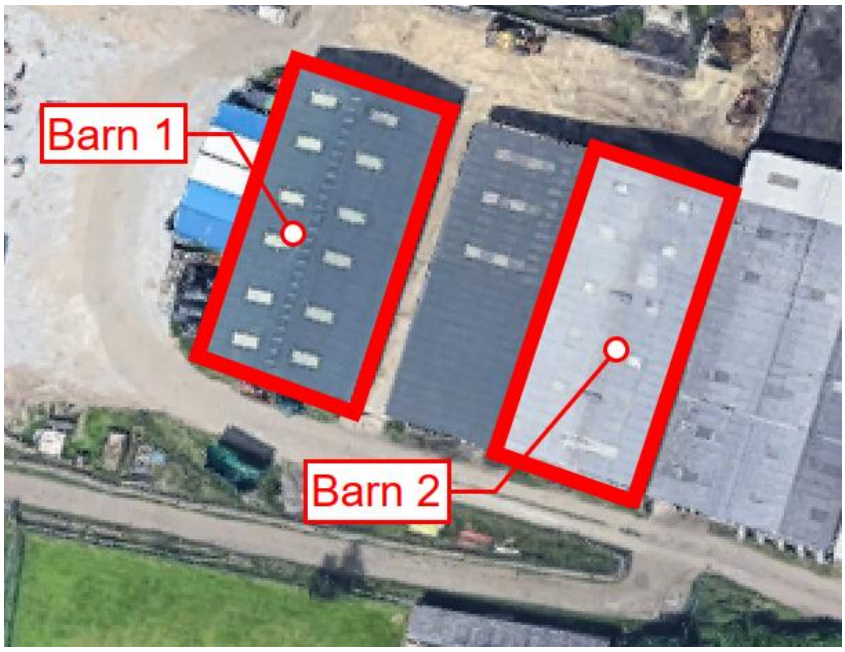

Figure 2-2 Buildings proposed to be converted

Both buildings are constructed using steel portal frames, with each frame incorporating moment connections at the eaves and apex. Roof bracing in both barns is formed using circular hollow sections (CHS). The gable ends of both barns are constructed using moment frames rather than braced bays.

Barn 1

Diagonal longitudinal bracing was observed on one side, formed using a CHS member. CHS members also form the roof bracing. The lower portion of the external walls consists of precast concrete panels, with profiled metal sheeting above, supported by timber cladding rails. The roof is clad with profiled sheeting supported by timber purlins.

The steel columns were measured as 254 × 146 UBs, consistent across each portal frame bay. The gable end posts were measured as 178 × 102 UBs.

Barn 2

CHS members were observed in the roof bracing; however, side bracing could not be confirmed due to limited access. The roof is clad with profiled sheeting supported by timber purlins. The walls are constructed from concrete blockwork to a height of approximately 3 metres, with profiled sheeting above, supported by timber cladding rails. One gable end is formed using concrete panels with profiled sheeting above.

The accessible steel columns were measured as 254 × 146 UBs. The accessible gable end posts, which currently form part of an opening, were measured as 254 × 102 UBs.

At present, there is a lean-to attached to Barn 2, which is also formed using a steel frame, which is clad with profiled sheeting and concrete panels, with profiled sheeting above the panels. Which would be removed in a conversion. The retained converted buildings are independently stable and do not rely on the lean-to structure for support or stability. Within the proposals, the space between the buildings would become private residential gardens, which is not detrimental to either building and enables the development to remain well ordered within the site curtilage.

The building foundations were not exposed during the inspection, and therefore the construction and build-up of the foundations and ground-bearing slab could not be determined.

3.0 OBSERVATIONS AND COMMENTS

The barns are not significantly weathered, and there is no evidence of foliage growth within the buildings. No signs of water ingress were observed; however, the current arrangement is unlikely to be fully watertight when assessed against habitable standards.

Surface rusting was noted on several steel members where paint has flaked off, particularly in Barn 2, where the steelwork appears to be older than that in Barn 1. From the elements that were accessible for inspection, there was no evidence of significant section loss due to corrosion.

There is no indication of notable deflection in the steel frames. However, the buildings are not well braced on all sides, and additional longitudinal bracing may be required along the east and west elevations where cross-bracing is currently absent. For conversion into residential accommodation, some existing bracing may also need to be repositioned to enable windows to be positioned correctly.

The existing roof is formed using profiled fibre cement sheets, which typically weigh approximately 0.20 kN/m². Any new roof covering should be limited to a similar weight. A profiled metal built-up or composite system would generally fall within this range, whereas slate or tiled roofing would be significantly heavier and may not be suitable without structural upgrades or additional calculations.

In Barn 1, where concrete panels have been used to form the lower section of the perimeter walls, ties were noted between the column flanges and the concrete panels. The wall was observed to be in good horizontal and vertical alignment.

In Barn 2, where concrete blocks form the perimeter walls, there were no obvious areas of cracking. No ties were noted between the blockwork and the steel columns, nor was any head restraint observed. However, the wall was generally in good horizontal and vertical alignment.

A residential conversion would require improvements to the building's thermal performance, typically achieved by cladding the external walls. It is common practice to add a second skin—either masonry or insulated studwork—to meet Building Regulations requirements.

The conversion would also require the installation of a new insulated ground-bearing slab. Additional works would include the formation of new window and door openings, provision of

services, and thermal and acoustic upgrades. Use as a dwelling would also involve a full internal fit-out, including partitions and finishes.

4.0 DISCUSSIONS AND CONCLUSIONS

The buildings are considered structurally suitable for conversion to residential accommodation, with full retention of the existing steel frame.

To accommodate new window and door openings, secondary framing will be required. Additionally, the installation of supplementary cross-bracing may be necessary to ensure adequate lateral stability, particularly where existing bracing is absent or conflicts with proposed openings.

Steel members exhibiting corrosion or rust due to flaking paint will need to be thoroughly cleaned (grubbed down) and repainted using a protective coating suitable for external steelwork.

As part of the residential conversion, the following elements will be necessary:

- Installation of new thermal insulation to meet residential standards.
- Provision of mechanical and electrical services.
- Construction of internal partitions, which may be formed using concrete blockwork, timber studwork, or metal studwork.
- Application of internal finishes.
- Installation of new windows and doors.
- Construction of an insulated floor slab to improve thermal performance.

Report prepared by

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DISCLAIMER

This report is produced solely for the benefit of Peacock & Smith and no third-party reliance or assignation is accepted. Observations noted herein are only applicable at the time of inspection, and to the areas visible only. There was no recourse to carry out intrusive investigation during this inspection.

Information

All information supplied by the client and the client's staff and professional advisers, local authorities, other statutory bodies and investigation agencies is accepted as being correct unless otherwise specified and is relied upon.

Condition of Buildings

Unless specifically requested we do not arrange for an investigation to be carried out to determine whether or not High Alumina Cement, Calcium Chloride Additive, Fibrous Asbestos any other deleterious material or permanent woodwool shuttering has been used in the construction of this property.

Inspection

We do not inspect those parts of the building or its services which are built in, covered up or otherwise made inaccessible in the normal course of construction, fitting out or occupation and we are therefore unable to report that any such parts of a property are free from rot or infestation, corrosion or other defects.

Enquiries of Local Authorities and Statutory Undertakers

Unless otherwise stated, we assume that all necessary permanent planning and other consents, approvals and permissions have been obtained for the construction and current use of the premises, and that there are no outstanding enforcement or other notices. Any non-compliance with Building Regulations, Offices, Shops and Railways Premises Act, Fire Precautions Act, Defective Premises Act, Health and Safety Acts, Disability Discrimination Act is not established.

Except to the extent noted in this Report we do not make any enquiries of any statutory authorities concerning the present arrangements in the building or the likely effect of the proposed occupation, and ask clients to note that the complexity of the building regulations and other statutory enactments often has a material effect on the way in which a building is planned and used and the cost of consequential work.

It is assumed that professional advice will be sought at the appropriate stage to determine any works that may be necessary due to the planned occupation.

Environmental Inspection

Within our report, as appropriate, we may pass comment upon the apparent existence of contamination or pollution at or in the area of the property, the impact of the past, existing or proposed uses of the property on its immediate environment or other environmental issues such as the energy efficiency of the building or the property. Our report does not however constitute an environmental audit or survey and nothing contained in it should be treated as a statement that there are no contamination or pollution problems relating to the property or confirmation that the property or any process carried out therein complies with existing or proposed legislation or environmental matters. We have not considered whether there is any

current liability to carry out work needed to comply with environmental legislation or any liability which may arise in the future as a result of proposed legislation.

Soil Report

No searches are made with the Coal Authority or other statutory bodies, unless specified to establish that a property is not likely to be affected by subsidence as a result of mining or tunnelling operations.

Unless otherwise specified, mining, geological and soil investigation reports are not undertaken or inspected. We are therefore unable to certify that any land is capable of development or redevelopment at a reasonable cost.

Unless we are instructed to the contrary, we assume that the ground is not contaminated by dangerous materials and no tests or investigations have been instigated in respect of heavy metal or toxic materials.

Repairs

Unless otherwise stated, we do not ascertain whether or not any structural repairs have been carried out, including timber treatment underpinning and strengthening, nor are we able to ascertain whether or not any guarantees exist.

Limitations

Unless otherwise stated, we are unable to ascertain whether a property has ever been flooded, and we are not able to ascertain the existence of any concealed access hatches or voids.

English Law

The formulation, construction, performance, validity and all aspects whatsoever of the inspection, shall be governed by the Laws of England and the parties hereby agreed to submit to the exclusive jurisdiction of the English Courts.

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Neither the whole nor any part of the Report or any reference thereto may be included in any published document, circular or statement, or published in any way without written approval from Topping Engineers Limited of the form and context in which it may appear.

5.0 APPENDICES

Appendix A – Photographs

Appendix A

Photographs

Barn 1 View on gable

Barn 1 View on Side

Barn 1 Side/Internal View

Barn 2 View on gable

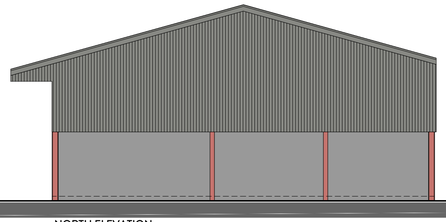
Barn 2 View on gable

Barn 2 Internal view

Appendix B – Drawings Barn 1

Appendix B

Barn 1 Architectural Drawings



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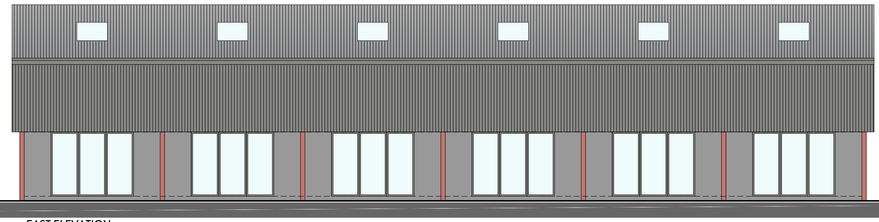

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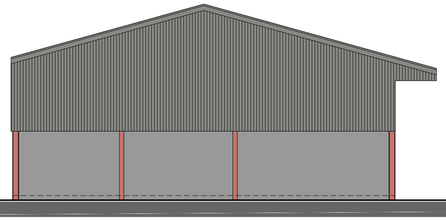

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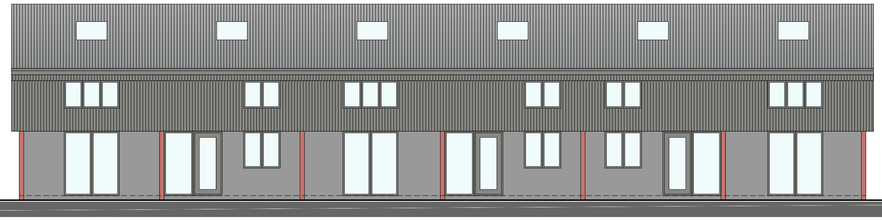

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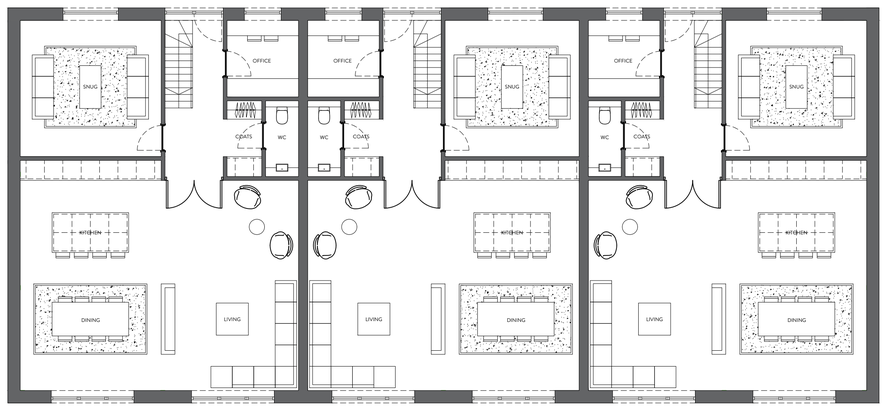

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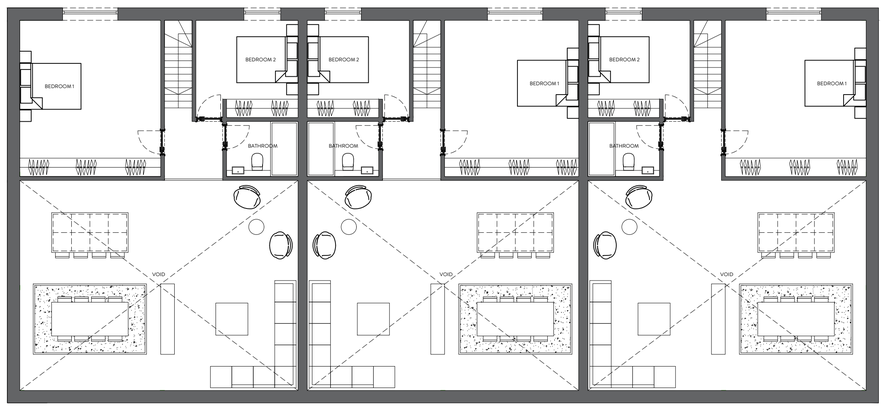

FIRST FLOOR PLAN
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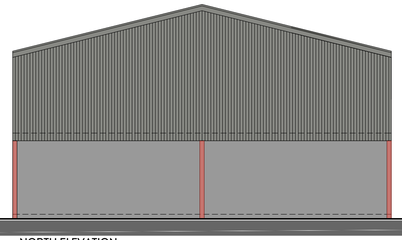
Appendix C – Drawings Barn 2

Appendix C

Barn 2 Architectural Drawings



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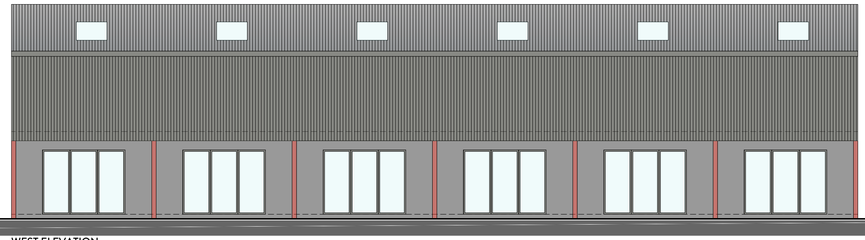

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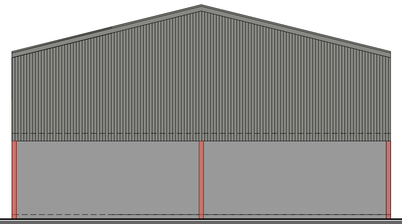

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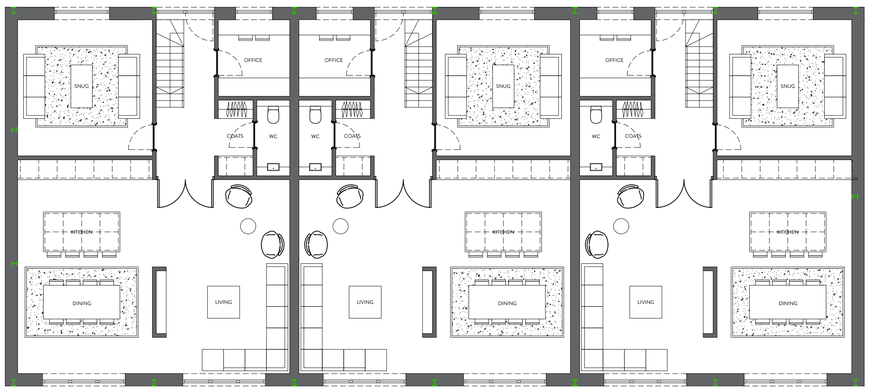

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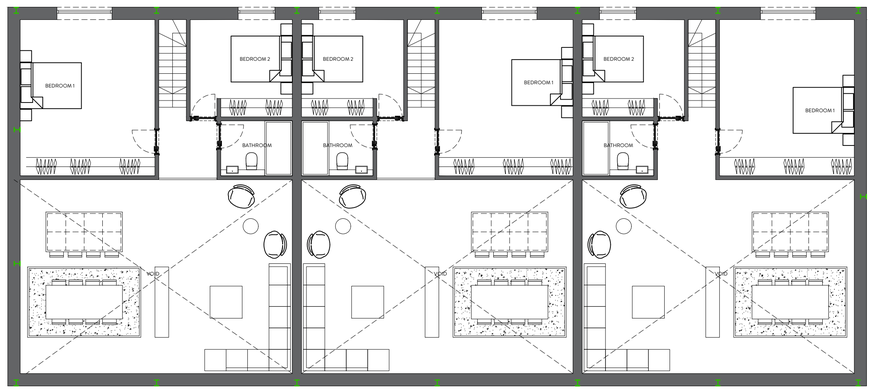

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