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Conversion of Outbuilding, Willington Cross Farm, Willington, Malpas

Structural Appraisal Report

December 2024

Job No. 2024/244

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1.0 Executive Summary

The outbuilding is a single storey unit generally comprising a pitched purlin and rafter roof with profiled sheeting finishes supported off timber framed external walls and intermediate timber trusses. The ground floor comprises a solid slab laid to falls incorporating a vehicle maintenance pit. An open lean-to is provided along the north elevation comprising profiled sheeting supported by timber framing off discrete steel columns.

Foundation type and depth were not proven, however given the age of the building, it is assumed that shallow brick spread foundations are present.

The inspection was carried out during the morning of Friday 29th November 2024.

The overall condition of the outbuildings is considered to be good/fair.

It is apparent that extensive repairs to the west, south and east elevations have been carried out recently. Given the age of the building and its form of construction, the repairs would have been carried out to replace rotten timbers and to ensure that the building would remain viable in the long term. The repairs have been carried out to a high standard. It is apparent that the roof construction, intermediate trusses and supporting posts are original features. No additional repairs are considered necessary to the external elevations.

The roof construction is showing evidence of degradation and distortions consistent with weather penetration over an extended period, although no evidence of penetration was apparent at the time of inspection. A small part of the main roof construction is missing at the western end with new profiled sheet finishes provided over. The remainder of the main roof appeared to be salvageable, though some isolated repairs will be required. The timber supports to the lean-to roof have degraded significantly with widespread rot apparent. New roof supports will be required as part of the conversion scheme. The profiled roof coverings are life expired and will need to be replaced. New roof covering will need to be of similar weight to ensure that the structure is not overstressed.

No dpc is apparent to the brick plinth, although no evidence of rising damp was apparent at the time of inspection. However, it would be prudent to allow for a new dpc to be installed as part of any conversion scheme.

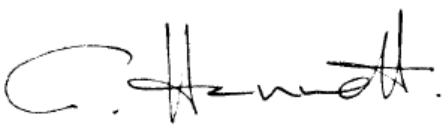
The ground floor within the workshop/store comprises and concrete slab laid to falls and incorporating a vehicle inspection pit. The floor to the lean-to comprises earth. The existing floor will not have a suitable damp proof membrane or insulation and will also need to be adjusted to suit the proposed levels. Therefore, new floors incorporating a dpm and insulation to modern standards will be required as part of the conversion scheme.

Gutters and downpipes were missing throughout. New roof drainage will be required as part of the conversion scheme. Downpipes should discharge into a new drainage system linked to a soakaway remote from the building.

The Client, Rodney Skelland, is seeking planning permission to convert the outbuilding into a self-contained dwelling. The proposed works will include the enclosure of the lean-to area, new internal walls, a new ground floor and new roof coverings.

The outbuilding is robustly constructed and is considered to be suitable for conversion into a self-contained dwelling following alterations as necessary.

Report Compiled by:



Andrew Hannett
BEng(Hons), CEng, MICE

2.0 Client's Brief

This report was commissioned by Rodney Skelland in support of the proposed planning application to convert the outbuilding into a self-contained dwelling. The purpose of the report is to identify whether the outbuilding is suitable for conversion and to confirm the extent of repairs required to ensure viability in the long term.

3.0 Inspection

3.1 General

The inspection was carried out during the morning of Friday 29th November 2024. The weather during the inspection was cold and dry. The inspection comprised a visual inspection of those elements readily visible from ground level and from within the outbuilding. No excavations were undertaken to uncover buried elements and any notes on the condition of these elements are made based on the visible condition of the property. Testing requiring the use of specialist equipment or training, e.g. electrical systems, gas appliances, water systems, etc., has not been undertaken. Manhole covers were not lifted and drains were not tested.

The outbuilding is a single storey unit generally comprising a pitched purlin and rafter roof with profiled sheeting finishes supported off timber framed external walls and intermediate timber trusses. The ground floor comprises a solid slab laid to falls incorporating a vehicle maintenance pit. An open lean-to is provided along the north elevation comprising profiled sheeting supported by timber framing off discrete steel columns.

Foundation type and depth were not proven, however given the age of the building, it is assumed that shallow brick spread foundations are present.

Elevations and rooms are referenced on Architect's Drawings – refer to Appendix A.

3.2 EXTERNAL INSPECTION

3.2.1 West Elevation

The elevation comprises painted weatherboarding off a brick plinth. A large steel door within a steel frame forms the primary vehicular access into the outbuilding.

The overall condition of the elevation is considered to be good/fair.

The weatherboarding is in very good condition and would appear to have been renewed as part of recent repairs to the building.

Severe corrosion and section losses were apparent to the door leaves particularly along the bottom edge. The steel section framing appeared to be in good condition with slight surface corrosion apparent.



West Elevation



Corrosion and section losses at base of door leaf

3.2.2 North Elevation

The elevation comprises painted weatherboarding off a brick plinth. Window openings are infilled with single glazed windows in timber frames and a double glazed window in a PVCu frame. Steel sheeting is provided at low level to the side of the lean-to.

The overall condition of the elevation is considered to be good/fair.

The weatherboarding is in good condition and would appear to have been recently repainted as part of recent repairs to the building.

Extensive moss growth was apparent to the upper roof sheeting. Several sheets have been replaced at the western end. The profile does not match the original sheeting which may allow weather to penetrate along the joint. Severe corrosion and section losses were apparent to the roof sheeting over the lean-to. The roof alignment is poor which is indicative of degradation to timber supports.



North Elevation



Moss to main roof sheeting and corrosion to lean-to sheeting

3.2.3 East Elevation

The elevation comprises painted weatherboarding off a brick plinth. Window openings are infilled with double glazed windows in the PVCu frames.

The overall condition of the elevation is considered to be good with no significant defects.

The weatherboarding is in very good condition and would appear to have been renewed as part of recent repairs to the building.



East Elevation

3.2.4 South Elevation

The elevation comprises painted weatherboarding off a brick plinth. Windows and the single door openings are infilled with double glazed windows in the PVCu frames. A large steel door within a steel frame forms a secondary vehicular access into the outbuilding.

The overall condition of the elevation is considered to be good.

The weatherboarding is in very good condition and would appear to have been renewed as part of recent repairs to the building.

Extensive moss growth was apparent to the roof sheeting. All of the original roof sheeting appears to be intact.



South Elevation

3.3 INTERNAL INSPECTION

3.3.1 Workshop/Store

The enclosed area is currently used as a workshop/store for vehicles. The roof over is finished with tongue and groove boarding supported off four intermediate fabricated trusses. The internal faces of the exterior walls are finished with OSB boarding, the floor comprises a concrete slab laid to falls towards the west elevation and incorporating a vehicle inspection pit.

The overall condition of the interior is considered to be good/fair.

The internal finish to the external walls comprises OSB boarding which would appear to have been recently installed. This finish would appear to have been installed as part of recent repairs to the south and east elevations.



General view of interior



General view of interior

The tongue and groove boarding to the underside of the roof shows evidence of minor degradation throughout.

In several areas, the boarding is missing with new cladding over the gap. This would indicate that weather penetration over an extended period has rotted the timbers.

The condition of the purlins would appear to be good. However, the roof shows slight sagging between trusses which would indicate that the timbers have been affected by weather penetration in the past.



Typical condition of roof timbers.
Note: missing area close to ridge.

The floor to the workshop/store comprises a solid slab laid with a fall towards the west elevation.

The overall condition of the floor is considered to be fair with the surface breaking up in areas. Cracking is apparent to the floor close to the west elevation at the end of the vehicle inspection pit.



Cracking to floor slab close to west elevation.

3.3.2 Lean-to

The lean-to is located on the north elevation. The roof over is finished with profiled sheeting supported off light timber framing. The timbers are supported by discrete steel columns externally and by timber blocks secured to the face of the workshop/store. The area has an earth floor.

The overall condition is considered to be fair/poor with evidence of widespread weather penetration through roof finishes over an extended period.

The alignment shows evidence of sagging between supports indicative of degradation to timbers. The profiled cladding is corroded with several holes apparent. Severe degradation to supporting timbers is also apparent with rot, section losses and repairs noted in areas.



Typical condition of lean-to roof.

4.0 Conclusions and Discussion

The overall condition of the outbuildings is considered to be good/fair.

It is apparent that extensive repairs to the west, south and east elevations have been carried out recently. Given the age of the building and its form of construction, the repairs would have been carried out to replace rotten timbers and to ensure that the building would remain viable in the long term. The repairs have been carried out to a high standard. It is apparent that the roof construction, intermediate trusses and supporting posts are original features. No additional repairs are considered necessary to the external elevations.

The roof construction is showing evidence of degradation and distortions consistent with weather penetration over an extended period, although no evidence of penetration was apparent at the time of inspection. A small part of the main roof construction is missing at the western end with new profiled sheet finishes provided over. The remainder of the main roof appeared to be salvageable, though some isolated repairs will be required. The timber supports to the lean-to roof have degraded significantly with widespread rot apparent. New roof supports will be required as part of the conversion scheme. The profiled roof coverings are life expired and will need to be replaced. New roof covering will need to be of similar weight to ensure that the structure is not overstressed.

No dpc is apparent to the brick plinth, although no evidence of rising damp was apparent at the time of inspection. However, it would be prudent to allow for a new dpc to be installed as part of any conversion scheme.

The ground floor within the workshop/store comprises and concrete slab laid to falls and incorporating a vehicle inspection pit. The floor to the lean-to comprises earth. The existing floor will not have a suitable damp proof membrane or insulation and will also need to be adjusted to suit the proposed levels. Therefore, new floors incorporating a dpm and insulation to modern standards will be required as part of the conversion scheme.

Gutters and downpipes were missing throughout. New roof drainage will be required as part of the conversion scheme. Downpipes should discharge into a new drainage system linked to a soakaway remote from the building.

The Client, Rodney Skelland, is seeking planning permission to convert the outbuilding into a self-contained dwelling. The proposed works will include the enclosure of the lean-to area, new internal walls, a new ground floor and new roof coverings.

The outbuilding is robustly constructed and is considered to be suitable for conversion into a self-contained dwelling following alterations as necessary.

5.0 Recommendations

The following items should be addressed as part of any works to the barn to ensure structural viability in the long term:

- Remove existing profiled sheeting roof finishes. Repair missing roof support over workshop/store and replace timber roof construction over lean-to. Install finishes over insulation and breathable membrane as required.
- Install new guttering and downpipes. Roof drainage shall discharge into a new drainage system routed to a ditch or drain or to a soakaway at least 5m from the outbuildings.
- Install injected chemical or sheet dpc at least 150mm above ground level to external walls. A ten-year insurance backed guarantee should be provided for all materials and installation. As an alternative, provide vertical damp proofing to rear of brick plinth lapped and sealed with floor dpm.
- Break up existing concrete floor slab and infill vehicle inspection pit. Provide new concrete ground floor incorporating insulation to modern standards. A dpm should also be provided which shall be lapped or tucked into the new dpc or damp proofing.

6.0 Limitations and Liability

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by Andrew Hannett Limited, no other party may use, make use of or rely on the contents of the report. No liability is accepted by Andrew Hannett Limited for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of Andrew Hannett Limited using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as their accuracy. It should be noted and it is expressly stated that no independent verification of any of the documents or information supplied to Andrew Hannett Limited has been made.

The timber or other parts of the building which are covered, unexposed or inaccessible to the Structural Engineer without the assistance of a ladder in excess of 3m have not been inspected. The report does not cover the condition of the dpc, possible damp penetration or condensation unless specifically highlighted as part of the inspection. Where the property was furnished at the time of inspection those elements of the structure covered over have not been fully inspected. Therefore, it is not possible to confirm that those elements are free from defect.

No excavations were undertaken to uncover buried elements or foundations and any notes on the condition of such elements are made based on the visible condition of the property. No intrusive testing was carried out. Manhole covers were not lifted and drains were not tested. Testing requiring the use of specialist equipment or training, e.g., electrical systems, gas appliances, water systems, etc., has not been undertaken.

This report is not intended to be an exhaustive list of all defects and only significant structural faults which could lead to instability of the structure in the present or future have been reported. Further defects may become apparent during more extensive investigation or during future refurbishment works.

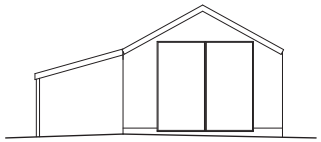
Detailed calculations to determine the adequacy of structural members are outside the scope of this report and have not been undertaken. However, evidence of distress as a result of overloading or deterioration will be identified so that provision for additional works can be made during any future refurbishment scheme.

The report shall be solely used by the Client to determine the extent of works to the property and liability in this respect will be limited to the instructing Client.

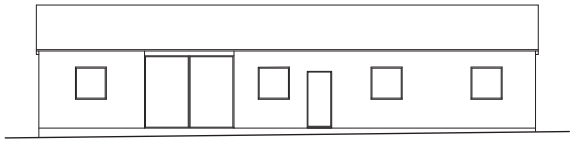
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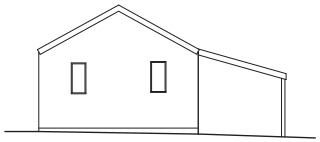
Appendix A – Architect's Drawings



Front Elevation 1:100



Side Elevation 1:100



Rear Elevation 1:100

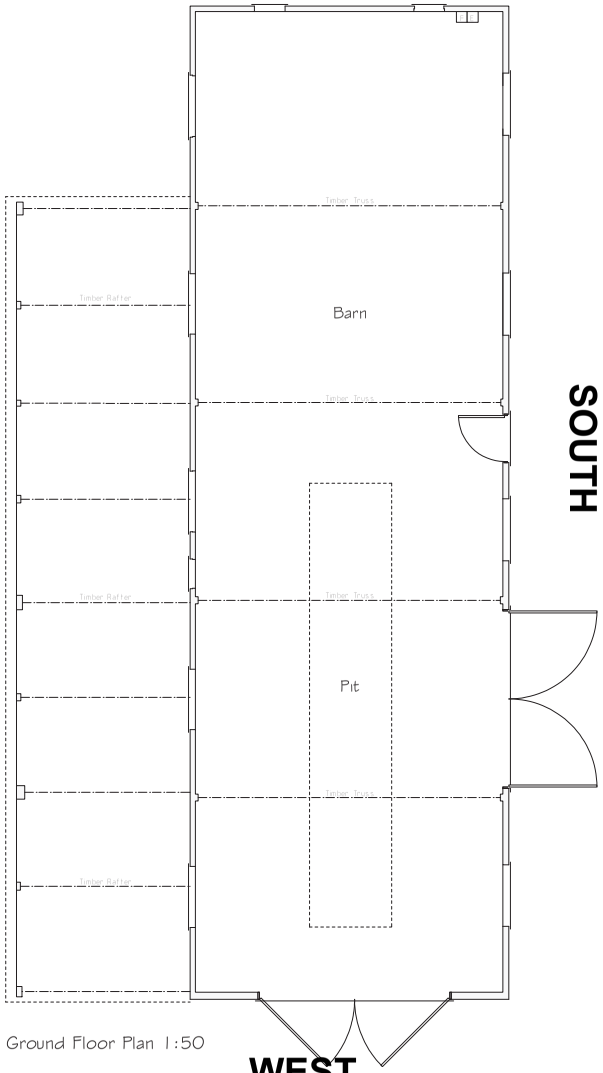


Side Elevation 1:100

EAST

NORTH

SOUTH



WEST

Ground Floor Plan 1:50

Services Key

Existing Electric Meter Position

Existing Fuse Box Position

Rev	Date	Detail	Initial

Project:

Proposed Alterations to,
Willington Cross Farm,
Willington, Malpas,
SY14 7NA

Title:	Scale: (A1)
Existing	1:50 & 1:100

Drawn By:	Date:
A.Valentine	May 2022

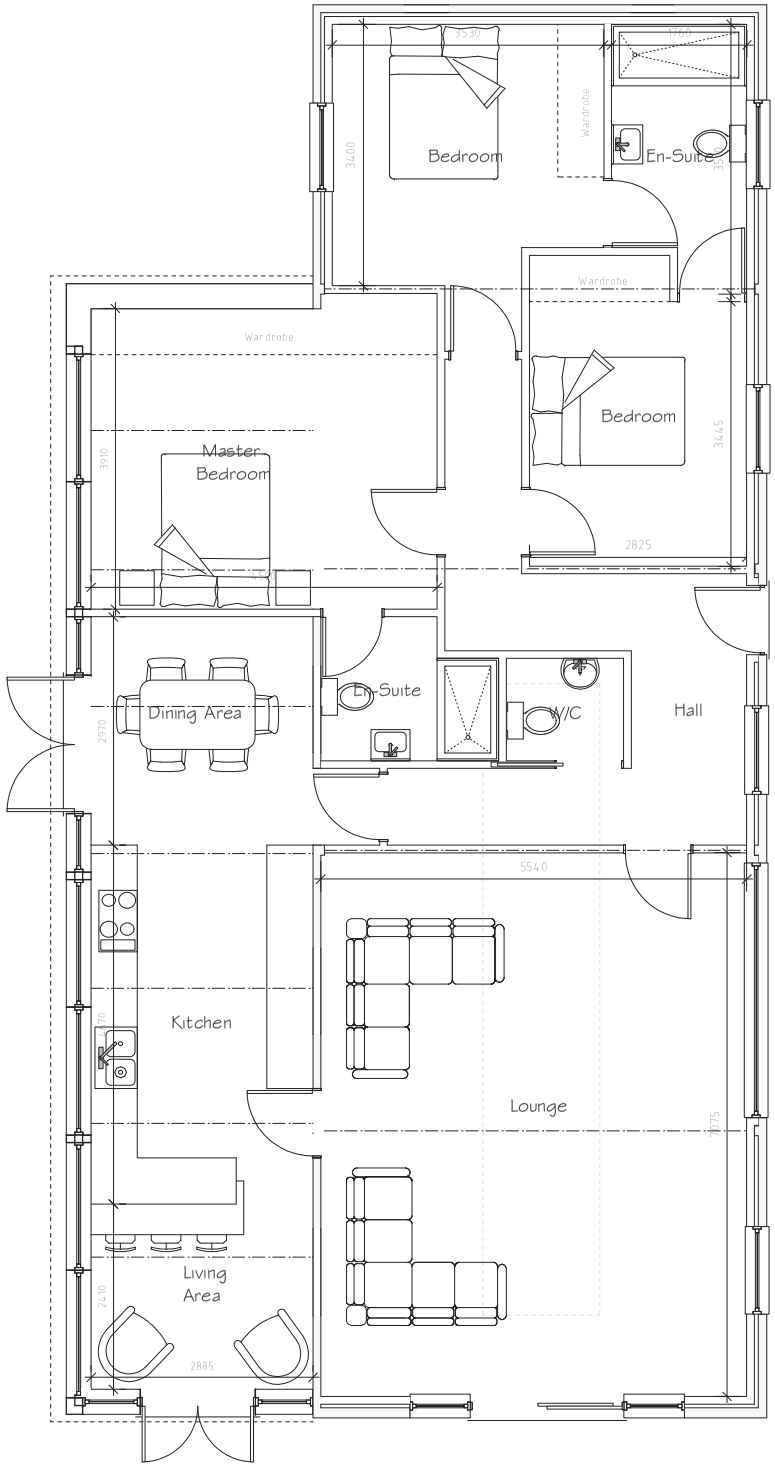
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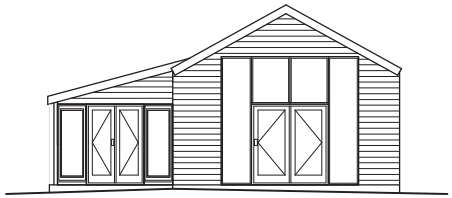
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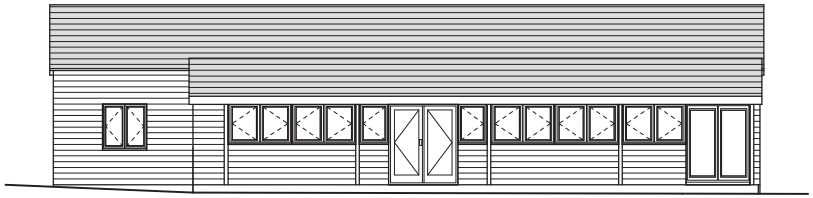
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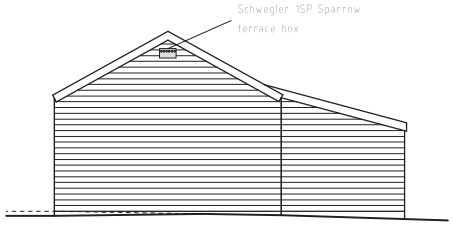
Ground Floor Plan 1:50



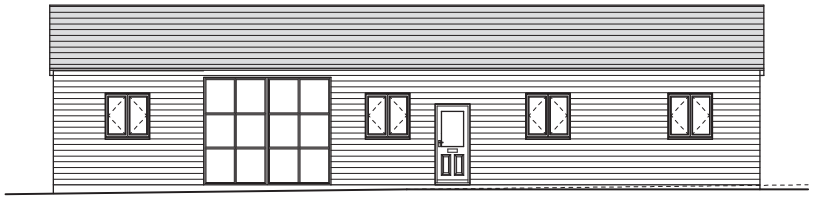
Front Elevation 1:100



Side Elevation 1:100



Rear Elevation 1:100



Side Elevation 1:100

External Facing Materials
External walls are to comprise existing horizontal timber cladding.

Roofing Materials
Roof coverings are to be zinc sheet roofing.

New windows are to comprise sealed double glazed units set in grey uPVC frames to match existing. En-suite and bathroom windows are to be fitted with obscured glass.

All fascias and soffits are to comprise timber to match existing.

Rainwater to be collected in 100mm diameter half round uPVC guttering and 65mm diameter uPVC downpipes, to discharge to soakaways located in garden.

Green Infrastructure Statement
The proposed parcel of land occupies a developed plot of land. Established gardens are to be maintained following the alterations proposed at the property. As documented, it is proposed the development includes the erection of a bird box to provide a net bio-diversity gain for the site.



Schwegler 1SP Sparrow terrace box to be fitted upon completion of the development.

Rev	Date	Detail	Initial

Project:
Proposed Alterations to,
Willington Cross Farm,
Willington, Malpas,
SY14 7NA

Title:	Scale: (A2)
Planning	1:50 & 1:100

Drawn By:	Date:
L. Fowles	July 2024
Drawing No:	**Sheet:**
S100/003	1 of 1

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architectural services

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