

## Specification of Works

**Site:** Maltmas Farm, Maltmas Drove, Friday Bridge, Wisbech, PE14 0HS

**For:** Cambridgeshire County Council



Ref: J0080820/SWB  
Date: 13<sup>th</sup> June 2024

Rev: -

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**1.00 SECTION A – PRELIMINARIES/GENERAL CONDITIONS:**

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1.01 Contract Parties:

Employer:

Cambridgeshire County Council, New Shire Hall, Emery Crescent,  
Alconbury Weald, ALC 2633, PE28 4YE

1.02 Contract Administrator (CA):

Carter Jonas LLP, One Station Square, Cambridge, CB1 2GA

1.03 Contractor: TBC

1.04 Contractual Matters:

i. It is intended that these preparatory works will be contracted by way of a JCT Minor Works Building Contract with Contractor's Design (MWD) 2016. All Contract terms apply.

ii. Base Date: May 2024

iii. CDM Planning Period: 2 weeks.

iv. Date for Commencement / Completion of Works:  
*Commencement as soon as practical. Programme TBC*

v. Liquidated Damages: £125 week

vi. Rectification Period: 6 months

vii. Retention Percentages: 5% and 2.5% post practical completion.

viii. Adjudication clauses apply. Arbitration clauses do not apply.

ix. Insurances: Clause 5.4C applies - the Contractor shall maintain a Contractors All Risk Policy of not less than £250,000.00. The Contractor must provide evidence of suitable current Contractors All Risks, Public Liability and Employer's Liability insurance cover to a minimum level of £5 million.

The Employer will insure the building.

x. Contractors Design Portion: Mechanical, plumbing & electrical services and scaffolding.

In respect of performance specified items, it is the contractor's duty to check the integrity of the item advised in contract documents or notify the CA where this is not checked.

1.05 Restrictions and Requirements:

- No smoking will be permitted within any part of the site.
- No burning will be permitted on site.
- No trespass of workmen, plant, or materials onto or over adjoining owner's property.
- The Contractor will be responsible for security of the building and all fixed or unfixed contents during the contract period.
- The Contractor will be always responsible for the stability of the building - provide all necessary temporary works, propping and supports.
- The Contractor will be responsible for safe isolation, protection and termination of all mechanical & electrical services prior, during and after the works.
- No noisy work is to be undertaken outside normal working hours.

The site must be always kept clean and tidy. Do not allow rubbish, dirt, or debris to spread off site.

At the end of the contract the buildings and grounds must be left in 'as found' condition. Clear away all equipment, rubbish, and debris.

Always comply with all relevant road traffic and parking legislation.

1.06 Health & Safety:

CDM and Risks: The relevant sections of the CDM Regulations 2015 apply. The project is projected not notifiable.

Submit method statements and risk assessments at pre-start meeting stage.

The Contractor must take all due precautions when drilling or opening up previously enclosed areas. All normal Health & Safety practices must be applied and enforced, including (but not limited to) the following:

- Personal Protective Equipment
- Working at heights
- Isolation of services
- Preventing falls
- Preventing objects dropping from height
- Working in enclosed areas
- Control of dust
- Control of noise
- Vibration injuries
- Manoeuvring vehicles and plant
- Lifting and carrying heavy items
- Structural Collapse
- Hygiene and disease control
- Fire Prevention
- COSSH Regulations

Asbestos:

Refer to the Asbestos Survey report provided in Appendix 4.

Report immediately any suspected asbestos containing materials discovered during execution of the Works not previously identified.

- Do not disturb.
- Agree methods for safe removal or encapsulation.

Contractor(s) to work in accordance with HSE requirements for work with asbestos containing materials.

Note: An R&D asbestos survey will be carried out and all asbestos removed by Others prior to the works starting.

Occupied buildings: The property is vacant. and remote, although near an active farm and single neighbour.

Welfare:

The contractor can use the existing facilities within the property until replaced. Portaloo to be provided following strip out of existing.

- 1.07 General:  
The Contractor is to allow for preliminary items including hoarding and scaffolding/access.
- Adequate full-time supervision must be provided at all times and a responsible person must be designated and present throughout working hours.
- The Contractor must fully comply with all relevant legislation, codes and bye laws
- 1.08 Site Access:  
The property is accessed off Maltmas Drove. Parking is directly in front and to the right-hand side of the property.
- The Contractor is to complete the relevant Risk Assessments and liaise closely with the client regarding access.
- 1.09 Accommodation:  
Parking/storage is to be at the property in a location to be agreed with the CA and tenant. Contractor to provide their own welfare facilities as appropriate, including a Portaloo.
- 1.10 Attendance:  
The Contractor is to allow for all necessary attendance and builder's work on all trades/sub-Contractors to facilitate the works and to include lifting and replacing of floorboards and cable chasing for wiring etc.
- 1.11 Scaffolding/High Level Access:  
The Contractor shall provide and install all necessary scaffolding hoists, ladders, staging, tackle, tarpaulins etc, and alter or adapt them during the works and maintain same and keep in good order. Scaffolding shall comply with British Standard 5974:2010 and British Standard EN 12811:1 and all subsequent British Standards.
- All scaffolding etc shall be erected and maintained where necessary to include use by all sub-contractors. All scaffolding shall be erected in accordance with current Codes of Practice and in compliance with the Construction (Design & Management) Regulations 2015. All necessary watching and lighting shall be provided. All scaffolding shall be dismantled on completion of the works and carted away from the site.
- 1.12 Extent of Works:  
The works described herein are confined to Maltmas Farm and the grounds thereof, unless stipulated in writing otherwise.
- 1.13 All dimensions, sizes and areas are to be checked on site prior to the commencement of works or ordering of materials and the CA is to be advised of any discrepancies. Dimensions quoted in this specification and accompanying documents are for information only and are not to be used for construction. On no account will the Employer be held responsible or liable for extras or omissions.
- 1.14 Where materials, products or manufacturers are specified, equivalents may be used, provided the prior consent and approval of CA has been obtained. Specific performance specifications must be matched.

1.15 The Contractor is to clearly establish the extent of the works required to complete them satisfactorily. All queries must be raised during the tender period, as no claim for additional items will be considered once the contract has been awarded.

1.16 The drawings to accompany this specification are included in Appendix 3 as follows:

Carter Jonas LLP:

- J0080820 – 01: Existing Ground Floor Plan
- J0080820 – 02: Existing First Floor Plan
- J0080820 – 03: Proposed Ground Floor Plan
- J0080820 – 04: Proposed First Floor Plan
- J0080820 – 06: Location Plan

**SECTION B – THE WORKS**

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<b>2.00</b>	<b>Demolition, Strip Out &amp; Alterations:</b>	
2.01	Asbestos identified in the Asbestos Survey report provided in Appendix 4 relating to the house will be removed by Others prior to the start of the works. ie Artex coated plasterboard ceilings.	
	All removal and disposal will be carried out strictly in accordance with HSE guidance and procedures.	
2.02	Allow for removing covings to ground floor areas and the Bathroom.	
2.03	Isolate and strip out the existing heating and hot water systems including the radiators, hot water cylinder and the existing oil-fired boiler within the Utility and cart away.	
2.03.1	Include for stripping out the cupboard housing the boiler.	
2.04	The existing steel oil storage tank is to be drained and disposed of off-site. Comply with all relevant regulations. Remove the supporting brick upstands.	
2.05	All for the following to be removed/stripped out and disposed of off-site:	
2.05.1	Utility Room: - Strip out the kitchen base units and worktops. - Strip off all the existing wall panelling. - Remove waste pipework and plumbing to the previous washing machine.	
2.05.2	Shower Room: - Strip out all sanitaryware, ie shower tray, WC & basin, and the shower valve, together with the wastes. - Remove the wall tiles to the shower area. - Strip off all the existing wall panelling, including boxing behind the WC. - Remove all fixtures and fittings.	
2.05.3	Kitchen: - The existing kitchen units, sinktop, worktops and wall units are to be stripped out. - Remove the existing plumbing wastes. - Remove wall shelves. - Strip off all the existing wall panelling. - Remove the wall tiling, full height, around the sink area. - Removing the serving hatch to the Lounge.	
2.05.4	Bedroom 1: - Strip out the built-in cupboards around the bed head area.	
2.05.5	Bathroom: - Strip out all sanitaryware, ie bath, WC and basin together with the wastes. - Remove full height wall tiling from all walls, and including the window sill and reveals. - Remove mirrors. - Remove all fixtures and fittings.	
2.05.6	Allow for removing all old picture hooks, nails, screws, etc from the walls of all rooms.	
2.05.7	Allow for removing all existing curtains and curtain rails.	
2.06	The following floorcoverings are to be lifted and disposed of: - Vinyl to Conservatory, Utility, shower Room, Kitchen. - Carpet to Hall/Staircase and Landing, Lounge, Bedroom 1, 2 & 3.	
2.07	Allow for stripping the existing lining/wall papers throughout property to the following rooms: - Hall/Staircase/Landing. - Bedroom 1, 2 and 3.	
2.08	Remove and dispose of existing internal doors as follows: Ground floor: DG.04, DG.05, DG.06, DG.07 & DG.08. First floor: DF.01, DF.02, DF.05 & DF.07.	

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2.09	Remove the existing lighting pendants and the fluorescent fittings to the Kitchen.	
<b>3.00</b>	<b><u>Roofs/Chimney Works:</u></b>	
3.01	Roofs:	
3.01.1	No works are proposed to the existing pitched roofs.	
3.01.2	Clean down and remove moss from the Conservatory polycarbonate panel roof.	
3.01.3	Clean down and remove moss from the concrete front door canopy.	
3.02	Loft insulation to both roof voids: Supply and lay 300mm of Rockwool Thermal Insulation Roll to the loft spaces.  Install 12no Manthorpe Refurb Eaves Panel vents, Code: G645 to ensure ventilation to the roof voids is maintained.	
<b>4.00</b>	<b><u>Rainwater Goods:</u></b>	
4.01	Clean out, check, wash down, and overhaul the gutters and downpipes. Ensure that all joints are sealed, and any missing/ defective components are replaced. Installation to be left fully functioning and leak free.	
4.02	Allow a <b>Provisional Sum of £350.00 (Three Hundred and Fifty Pounds)</b> for the replacement of any gutters/downpipes found to be defective as directed by the CA.	350.00
<b>5.00</b>	<b><u>Walls and Partitions:</u></b>	
5.01	Make good the hole left in the Utility external wall following removal of the boiler flue. External facing bricks used are to match the existing.	
5.01.1	To window, ref: WG.04, re-point and make good adjacent to the sill.	
5.02	Following removal of lining papers, including woodchip paper, allow to make good walls ready for re-decoration.	
5.03	Allow for walls where wall tiles have been removed to be re-skimmed.	
5.04	Allow for infilling the serving hatch between the Kitchen and Lounge and plaster both sides.	
5.05	Form a new cupboard within the Utility area comprising 89 x 38mm studwork framing clad both sides with 12.5mm Gyproc Wallboard Duplex by British Gypsum Ltd, or equivalent, skim finished ready for decorations. Include for new door lining, stops and architraves ready to receive the new doors. Provide skirtings to match existing.	
<b>6.00</b>	<b><u>Floors:</u></b>	
6.01	Check over the ground and first floor boarding that presently appears 'soft'. Carry out remedial works to remedy this, packing, glueing and screwing down as appropriate. Note: 'Soft' areas have been noted in the Shower Room and the Kitchen, near the sink position.	

6.02	Allow a <b>Provisional Sum of £500.00 (Five Hundred Pounds)</b> for unexpected flooring repairs following removal of existing finishes.	£500.00
6.03	Whilst the ground floor ceilings are removed install 100mm Rockwool Flexi insulation between the floor joists to the first floor void.	
<b>7.00</b>	<b><u>Ceilings:</u></b>	
7.01	The existing Artex coated ceilings to be removed. See item 2.01 and	
7.01.1	Supply and install new plasterboard ceilings as follows:  To ground floor areas, use 12.5mm Gyproc Wallboard by British Gypsum Ltd, or equivalent, skim finished ready for decorations. Include for new Gyproc Cove 127 by British Gypsum Ltd to ground floor areas.  To first floor areas, use 12.5mm Gyproc Wallboard Duplex by British Gypsum Ltd, or equivalent, skim finished ready for decorations.	
<b>8.00</b>	<b><u>Doors, Windows &amp; Joinery:</u></b>	
8.01	<b><u>Doors:</u></b>	
8.01.1	Supply and fit new moulded internal doors as Masonite Mould Ladder Smooth – Semi Solid – by Premdor Crosby Ltd. Sizes: - DG.04, DG.06, DG.07, DG.08, DF.01, DF.02, DF.05 – 762 x 1981 x 35mm - DG.05 (x2), DF.07 – 686 x 1981 x 35mm	
8.01.2	Fit new ironmongery to all new doors comprising 1 ½ pairs of stainless steel hinges, levers on roses and latch set. Include for bathroom lock to Shower Room (DG.04) and Bathroom (DF.07) doors. Allow the sum of £45.00 per door for each ironmongery set. Provide samples for CA approval.	
8.01.3	Ease and adjust all doors to leave fully functioning.	
8.02	<b><u>Windows:</u></b>	
8.02.1	Ease and adjust all windows to leave fully functioning, opening, and closing correctly. Ironmongery fixings are to be checked and tightened where loose.	
8.02.2	Allow a <b>Provisional Sum of £350.00 (Three Hundred and Fifty Pounds)</b> for replacing any defective components as directed by the CA.	350.00
8.03	<b><u>Kitchen Units/ Fittings:</u></b>	
8.03.1	Allow the <b>Provisional Sum of £4,750.00 (Four Thousand and Seven Hundred &amp; Fifty Pounds)</b> for the supply only of new kitchen base and wall units, laminated worktop(s), stainless steel sinktop, chrome lever type taps, door and draw handles and fittings. To include for a low level built-in electric oven and electric hob. Units as Allendale Antique White shaker style range with 38mm square edged aged oak effect worktop by Howdens Joinery Ltd. Contractor to liaise with Howdens to prepare layouts for approval by the CA.	4,750.00
	Add for Contractor's overheads & profit as necessary.	
8.03.2	Allow for full installation of the kitchen.	

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8.03.3	Supply and install new stainless steel cooker hood extract over the hob with min 30 litre per second extract rate. Hood to discharge through the external wall.	
8.03.4	Include for all necessary components, accessories, fixings and supports required to ensure a complete good quality kitchen installation. Provide additional boxings and casings, service access points, etc as required.	
8.03.5	Ensure that all instructions, etc are kept safe and included within the Building Manual.	
8.04	<b>Internal Joinery:</b>	
8.04.1	Replace missing sections of skirting to the bed head wall in Bedroom 1.	
8.04.2	Provide new 30mm chrome hanging rails to the built-in wardrobes in Bedroom 1 and 2.	
<b>9.00</b>	<b><u>Mechanical / Plumbing Services:</u></b>	
9.01	Design, supply, and install a new air source heat pump (ASHP) system to supply hot water and heating, with radiators, to the property in accordance with the Air Source Heat Pump Design Criteria included in Appendix 5. To include the ASHP, hot water cylinder, buffer tank, new radiators, and all new pipework and electrical installation as required.  The contractor is to carry out the relevant design and heat lost calculations in order to correctly size the ASHP, radiators, etc. Contractor to supply all calculations, design details and information as required by Building Control to obtain the relevant approval.  Position of the ASHP unit, buffer tank, etc is to be agreed on site with the CA. Generally, the new radiators are to go in the existing locations.  Copies of all documents to be provided to the CA.  ASHP installed to have a minimum 10 year guarantee.	
9.02	Allow for connecting hot & cold water supplies to the new Kitchen sink, dishwasher space, washing machine space, Shower Room fittings and Bathroom fittings, as required.	
9.04	Insulate all pipework using polyethylene pipe insulation to BS476.	
9.05	Supply new thermostatic radiator valves to all new radiators.	
9.06	The mechanical services and heating system must be provided with all components, fittings and accessories as required to ensure a complete working system in full accordance with all relevant Statute, By-Laws and Codes of Practice.	
9.07	After testing, flushing and commissioning, drain and re-fill all primary hot water circuits using <u>Fernox additive</u> diluted to the recommended strength. Provide documentary evidence that this has been done within the Building Manual.	
9.08	Any electrical wiring associated with the mechanical services installations (thermostats, motorised valves, programmers, sensors, immersion heaters, control wiring etc) is deemed to be carried out by the electrical subcontractor who must liaise with the plumbing subcontractor during the tender period.	

9.09	<p>Documentation - Hand over to the CA <u>before</u> practical completion, copies of manufacturer's operating and maintenance instructions for all new equipment and controls, together with all commissioning certificates contained within the Building Manual (described in the Preliminaries). Label all isolating and regulating valves stating their functions.</p> <p>Allow time to instruct the Client properly and thoroughly in the correct and efficient use and control of all the systems.</p> <p><b><u>The Certificate of Practical Completion will not be issued until the Building Manual has been received and approved.</u></b></p>	
9.10	<u>Above Ground Drainage:</u>	
9.10.1	Renew all above ground waste pipework (main soil stacks/vent pipes to remain) serving the Kitchen, Shower Room and the Bathroom.	
9.10.2	<p>Installation generally: install pipes, fittings and accessories in accordance with BS8000: Part 13 section 3 and BS5572. Obtain all components for each type of pipework from the same manufacturer unless specified otherwise. Form junctions using fittings intended for the purpose. Fix pipes at centres not greater than those specified in BS8000: Part 13. Provide additional supports as necessary at junctions at changes in direction.</p> <p>Fix every length of soil vent pipe at or close below the socket collar. Where not specified otherwise use plated, sheradised, galvanised or non ferrous fastenings, suitable for the purpose and background and compatible with the material being fixed or fixed to</p>	
9.10.3	Pipe routes to be the shortest practical with as few bends as possible and with no bends in wet portions of soil stacks unless specified otherwise. Pipe routes to be designed by the contractor and approved with the CA prior to installation.	
9.10.4	Pipework test: Temporarily seal open ends of pipework with plugs. Connect a U tube water gauge and air pump and pressurise until the gauge measures 38 mm. Allow a period for temperature stabilisation, after which the pressure of 38mm is to be maintained without loss for not less than 3 minutes.	
9.10.5	<p>All internal pipes and fittings are to be in Osma or equivalent approved PVC-u. Use the Osma suspension system for any horizontal suspended pipe runs. Provide a deep seal anti syphon trap to all wastes.</p> <p>Waste sizes:</p> <ul style="list-style-type: none"> <li>- WCs and stacks - 110 mm diameter.</li> <li>- Baths, showers, sinks, washing machine and dishwasher, etc - 40 mm diameter.</li> <li>- Basins - 32 mm diameter</li> </ul>	
9.10.6	Provide full rodding access at all changes in direction. Install in strict accordance with Osma instructions to provide a complete free flowing system in full accordance with Building Regulations H1.	
9.10.7	Provide all necessary components and accessories required to ensure a free-running, syphon free, waste & drainage system in full accordance with the Building Regulations and best trade practice.	

<b>10.00</b>	<b><u>Sanitaryware:</u></b>	
10.01	Shower Room sanitaryware: Supply and install new sanitaryware to the Shower Room comprising the following: - Shower tray & waste: - Shower mixer: - Shower door: - Hand basin & taps: - WC: Allow the provisional sum of £1,150.00 (One Thousand, One Hundred and Fifty Pounds) for the supply only of the Bathroom fittings. Final choices to be agreed with the CA.	
10.02	Bathroom sanitaryware: Supply and install new sanitaryware to the Bathroom comprising the following: - Bath & taps: - Wash hand basin & taps: - WC: Allow the provisional sum of £1,000.00 (One Thousand Pounds) for the supply only of the Bathroom fittings. Final choices to be agreed with the CA.	
<b>11.00</b>	<b><u>Electrical Services:</u></b>	
11.01	Allow for carrying out a full inspection and test of the existing electrical installation and provide a report highlighting any defects to the CA for instruction.	
11.02	Allow the <b>Provisional Sum of £500.00 (Five Hundred Pounds)</b> for any remedial works required to the existing electrical installation found following the inspection and testing above. Extent of works to be agreed with the CA.	500.00
11.03	Allow for all electrical works associated with the new ASHP installation.	
11.04	Lighting:	
11.04.1	Supply and install new fire rated LED recessed mini-downlighters, colour: white, to the following areas: - Kitchen: 8no - Shower Room: 3no - Bathroom: 4no.	
11.04.2	Supply and install new pendant fittings to the Utility area, Hall, Landing, Bedroom 1, 2 & 3.	
11.05	Allow for all single sockets throughout the property to be replaced with new recessed double socket outlets.	
11.06	Allow for alterations to existing and new outlet/ connections to suit the new Kitchen layout. Allow for 6no double socket outlets, 45A 2-gang DP cooker switch (white with red inserts), socket for the hob and low level socket outlets for the washing machine and dishwasher spaces with switches above the worktop.	
11.07	Extract fans: Include for a suitable new Vent Axia, or equivalent, approved extractor fans to be installed in the Shower Room, Utility Room and Bathroom together with a new supply and double pole isolator. The fans are to be wired into the lighting circuit. The fans are to have adjustable fan speed between 6 l/s and 60 l/s, continuous running type with humidistat, speed sensor control and pull cord or live switch boost function. Include for all necessary ducting, grilles and accessories as required.	

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11.08	Provide new white faceplates to all existing electrical outlets and switches.	
11.09	Install new LED light bulbs to all pendants and wall lights.	
11.10	The electrical contractor, who must be NICEIC registered, will be responsible for the design of the installations.	
11.11	Installation generally: install, test and commission the electrical work in accordance with BS7671 (The IEE Wiring Regulations) and the Building Regulations ensuring compliance with design and performance requirements, to provide a safe, well insulated, earth protected system capable of supplying the anticipated maximum demand. Installation work to be carried out by NICEIC qualified electricians fully conversant with BS7671. Fastenings, bushes, glands, terminals, connectors, clips, clamps and all other accessories necessary to complete the installation to be types recommended for the purposes by relevant equipment or accessories manufacturers. In locations where moisture is present or may occur use corrosion resisting fastening and avoid contact between dissimilar metals.	
11.12	Equipotential bonding: install main and supplementary bonding conductors in accordance with the requirements of BS7671. This is to include bonding of oil supplies.	
11.13	Cables to be BASEC certified. Select types and sizes to suit operating conditions, ensuring compliance with BS7671.	
11.14	Cable routes to be straight, vertical, horizontal and parallel to walls unless shown otherwise. All cables to be concealed (except in boiler rooms and similar service areas). Concealed cable runs to wall switches and outlets to be vertically in line with the accessories. Provide mechanical protection to concealed cables in accordance with BS7671.	
11.15	Documentation - Hand over to the CA before practical completion, copies of manufacturer's operating and maintenance instructions for all equipment and controls, together with all commissioning / test certificates contained within the Building Manual that was described in the Preliminaries. Label all circuits clearly stating their functions. Allow time to properly and thoroughly instruct the Client in the correct and efficient use and control of all the systems.  <b>The Certificate of Practical Completion will not be issued until the Building Manual has been received and approved.</b>	
<b>12.00</b>	<b><u>Decorations:</u></b>	
12.02.1	Extent of Work: Full interior redecoration to all previously painted/stained internal surfaces, ie walls, ceilings, doors and frames/linings, architraves, skirtings, window boards, etc	
12.02.2	Preparation: Fill and make good as required. All surfaces are to receive thorough preparation in accordance with best trade practice and the paint manufacturer's instructions. Thoroughly rub down, fill, knot, stop and prime as required. Rub down between each coat. Thoroughly wash and de-grease all surfaces using sugar soap before coating. Allow for additional preparation to walls as might be require where wallpapers have been removed.	

12.02.3	Make good all nail holes, open joints etc with approved exterior flexible stopper according to manufacturer's instructions. Allow to dry before sand papering smooth and dusting off.	
12.02.4	To areas and surfaces suffering from mould allow for treating and removing interior mould with Zinsser® Mould Killer & Remover. Prior to decorations prime areas with Zinsser B-I-N® AQUA water-based primer, sealer, stain killer and odour blocker prior to other decorations. Carry out cleaning down and preparation in accordance with the manufacturer's recommendations.	
12.02.5	Internal painted woodwork: Prepare, knot and stop and apply two coats interior wood primer and undercoat to all bare timber. Finish with one coat of eggshell / satin wood. All paints to be water-based acrylic. Include for painting the previously painted window boards, skirtings, picture rails, fitted timber cupboards and stairs. Colour: White. Internal woodwork, joinery and new internal doors to be painted. Colour: White.	
12.02.6	To plastered walls and ceilings: Two full coats Dulux Trade Matt Emulsion. Provide an additional mist coat to new bare areas. Colour to be selected from the manufacturer's standard range and to be agreed with the CA. Any walls/ ceiling showing signs of damp/staining are to be treated with a stain blocker prior to decorations. See item 12.02.4 above. Colours: - Ceilings: White. - Walls: Johnstone's Trade – Acrylic Durable Matt Colour (Tinted) – Elemental - PPG1011-2. (To be finally agreed with the CA)	
<b>13.00</b>	<b><u>Finishes:</u></b>	
13.01	Seamless Sheet Vinyl Flooring: Supply and install new seamless sheet vinyl flooring to the Kitchen, Utility area, Bathroom and Shower Room. Include a provisional rate of £35 sq m for the supply only of the flooring. Provide samples from good quality manufacturers for selection and approval by the Client/ CA.  Add for professional laying and fitting, including door bars, accessories and sundries as required. Protect from following trades. Ensure an overall even and consistent finish.	
13.02	Kitchen wall tiling: Supply and fit new ceramic tiling, including ULTRA flexible adhesive and waterproof grout, above all worktops, height to underside of wall units, 450mm. Include for end returns. Include for stainless steel flat edging strips to finish tiles.  Allow for tiles at £25/m <sup>2</sup> . Provide samples for CA approval.	
13.03	Shower Room wall tiling: Supply and fit new ceramic tiling, including ULTRA flexible adhesive and waterproof grout, to the three internal walls of the shower and 450mm high above the wash hand basin. Include for stainless steel flat edging strips to finish tiles.  Allow for tiles at £25/m <sup>2</sup> . Provide samples for CA approval.	

13.04	Bathroom wall tiling: Supply and fit new ceramic tiling, including ULTRA flexible adhesive and waterproof grout, to the walls previously tiled within the Bathroom. Include for stainless steel flat edging strips to finish tiles.  Allow for tiles at £35/m <sup>2</sup> . Provide samples for CA approval.	
<b>14.00</b>	<b><u>Sundry Works:</u></b>	
14.01	Provide all necessary components, trim and accessories as described elsewhere, or as implicitly required to ensure a high-quality finish to all interiors.	
14.02	Provide new silicone sealant at junction of all sanitaryware/tiling and kitchen & utility area worktops/wall tiling.	
14.03	Construct a new boxing/cupboard to enclose the electricity meter and distribution board.	
<b>15.00</b>	<b><u>Below Ground Drainage:</u></b>	
	No works proposed.	
<b>16.00</b>	<b><u>External Works:</u></b>	
16.01	Provide a new 150mm thick GEN1 level concrete base slab of suitable size ready to accept the new ASHP. Final location to be agreed with the CA.	
<b>17.00</b>	<b><u>Completion and Handover:</u></b>	
17.01	Work Before Completion: - General: Make good all damage consequent upon the Works. - Temporary markings, coverings, and protective wrappings: Remove unless otherwise instructed. - Cleaning: Clean the Works thoroughly inside and out, including all accessible ducts and voids. Remove all splashes, deposits, efflorescence, rubbish, and surplus materials. - Cleaning materials and methods: As recommended by manufacturers of products being cleaned and must not damage or disfigure other materials or construction. - COSHH dated data sheets: Obtain for all materials used for cleaning and ensure they are used only as recommended by their manufacturers. - Minor faults: Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions. - Moving parts of new work: Adjust, ease, and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.	



17.02	<p>Test and commission all newly installed mechanical and electrical systems and ensure compliance with the specification.</p> <p>Clear site of all remaining tools, access, materials, rubbish/debris/spoil, skips, welfare, protection etc. Undertake a full builders clean inside and out including cleaning all glazing, surfaces, floorcoverings.</p> <p>Reinstate any damage caused, including to hard surfacing. Undertake own snagging and ensure the installation is as far as practical defect free before offering to CA for snagging.</p> <p>Handover all documentation and guarantees as listed in the preliminaries including building control completion certificate.</p> <p>Give client / CA one weeks' notice for handover meeting.</p>	
17.03	<p>Allow 2 hours user training/instruction for use of the installed systems generally, particularly the mechanical and electrical installations.</p>	
	<b>Total to Tender Summary:</b>	

**SECTION C – DAYWORKS, CONTINGENCIES & PROVISIONAL SUMS:**

C1 Contingencies:

Include a contingency sum of **£5,000.00 (Five Thousand Pounds)** for **£5,000.00** unforeseen work to be executed at the direction of the CA.

C2 Dayworks:

The contractor is to state below all-inclusive daywork rates to be applied on this contract together with the percentage profit to be applied for plant and materials. Rates for individual sub-contractors should also be identified separately.

Labour:

Craftsmen	£	per hour
-----------	---	----------

Painter	£	per hour
---------	---	----------

Labourer	£	per hour
----------	---	----------

Plant		%
-------	--	---

Materials		%
-----------	--	---

Note: Provisional sums have been included within the relevant part of Section B.

To General Summary	<b>£5,000.00</b>
--------------------	------------------

**SECTION D - TENDER SUMMARY:**

PRELIMINARIES	£
SCHEDULE OF WORKS	£
CONTINGENCY	£5,000.00
TOTAL TENDER	£

Carter Jonas LLP  
One Station Square  
Cambridge  
CB1 2GA

J0080820/SWB..... TO COLLECTION

**APPENDIX 1 – FORM OF TENDER**

**To:**

Cambridgeshire County Council,  
New Shire Hall,  
Emery Crescent,  
Alconbury Weald, ALC 2633,  
PE28 4YE

Dear Sir/Madam,

**Refurbishment Works – Maltmas Farm, Maltmas Drove, Friday Bridge, Wisbech, PE14 0HS**

I/We, the undersigned, hereby tender for and undertake to execute and commence within \_\_\_\_\_ weeks of receiving an order, and to complete within \_\_\_\_\_ weeks of the date of possession, all the works described in the contract documents for the sum of £ \_\_\_\_\_ plus VAT.

I/We, also agree to enter into a Contract in accordance with the said Specification.

I/We certify that this is a bona-fide tender and that we have not disclosed any information or entered into any agreement or made any offer to any person or body that could prejudice your intention to obtain truly competitive tenders.

As witness our hand this ..... day of .....

Signed .....

Registered Name and Address of Company:

.....  
.....  
.....  
.....  
.....

Witness .....

J0080820/SWB..... TO COLLECTION

**APPENDIX 2 – GENERAL PHOTOGRAPHS**



View of front of property



View showing Utility single storey element, with boiler and oil tank





View showing side of house and the conservatory



View showing rear of the house





View showing internal view of Conservatory



View showing the Utility Room

J0080820/SWB..... TO COLLECTION



View showing the Shower Room



View of Kitchen

J0080820/SWB..... TO COLLECTION





View of the Kitchen



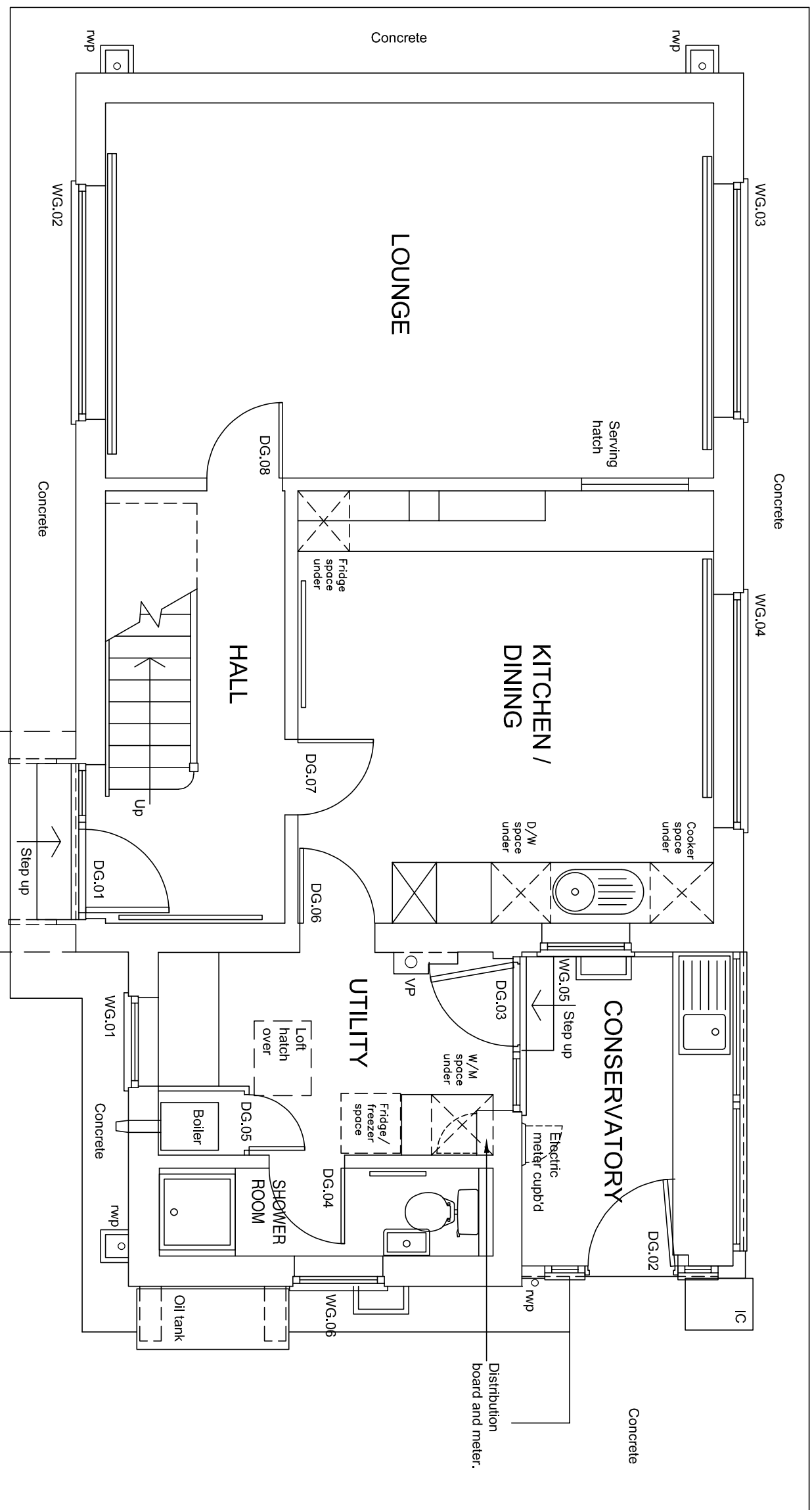
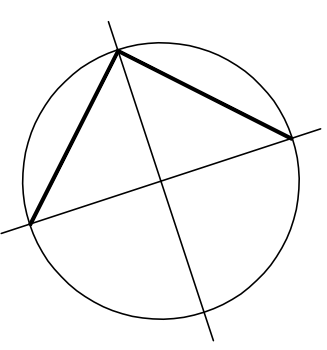
View of the Lounge



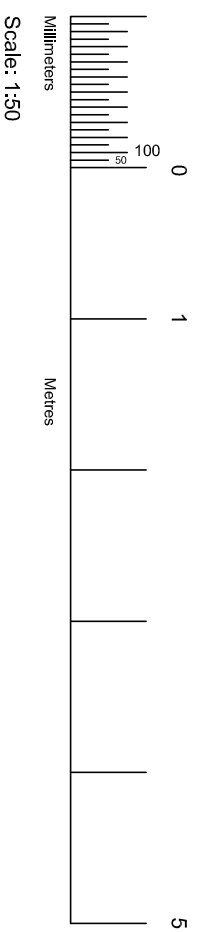
View of the Bathroom

**APPENDIX 3 – DRAWINGS**

J0080820/SWB..... TO COLLECTION



# EXISTING GROUND FLOOR PLAN. (1:50)



# TENDER

Revisions

## Carter Jonas

One Station Square, Cambridge, CB1 2GA  
Tel: (01223) 368771  
Web: www.carterjonas.co.uk

Job title:  
MALTMAS FARM,  
MALTMAS DROVE, FRIDAY BRIDGE,  
WISBECH, PE14 0HS.

Drawing title:  
EXISTING GROUND FLOOR PLAN.

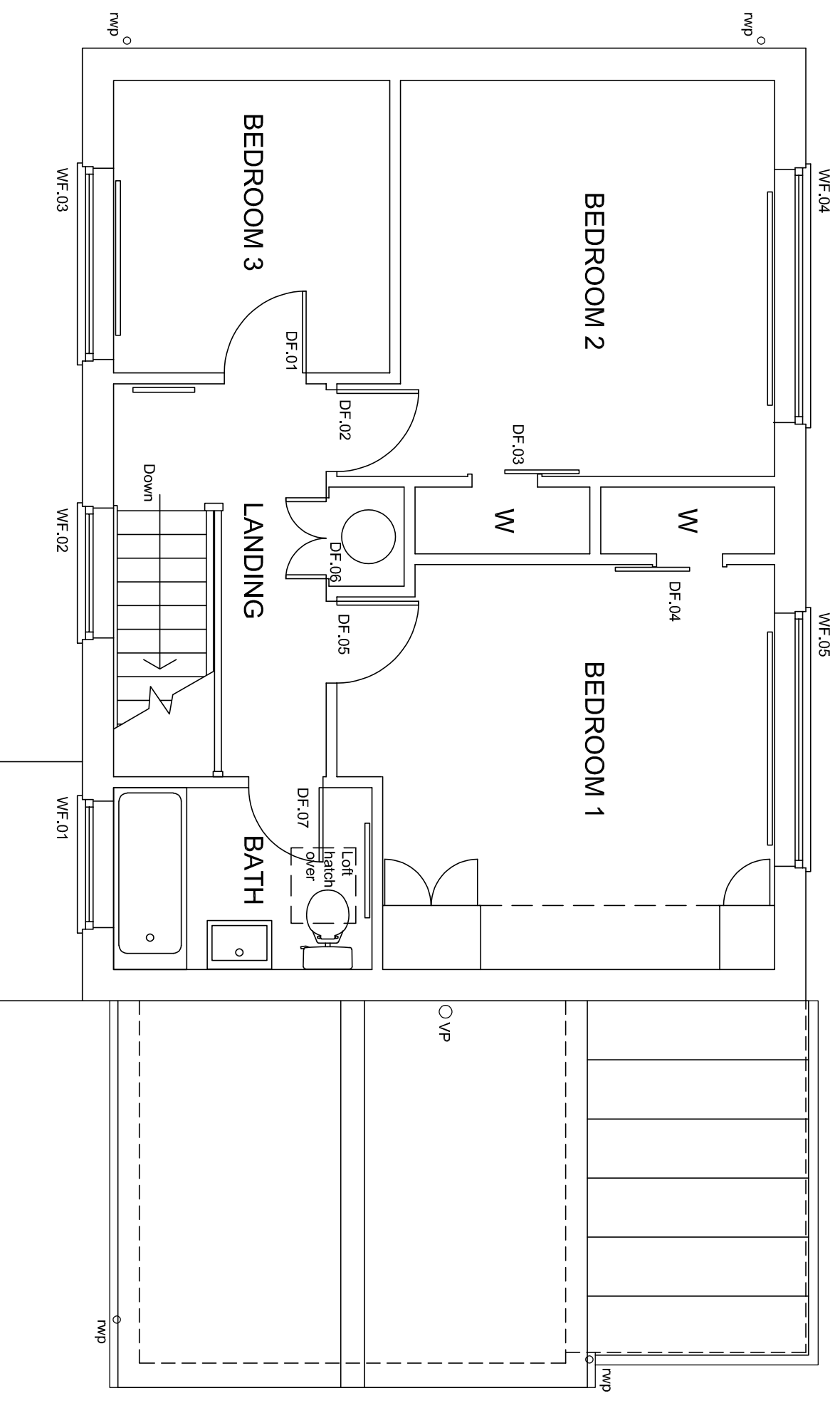
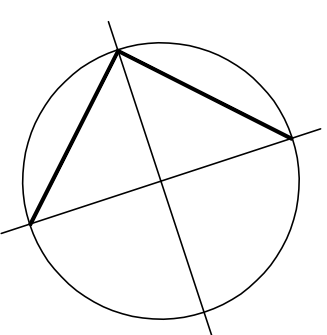
Date: 12.04.24 Scale(s): 1:50 @ A3

Drawn by: SWB Checked by: AD

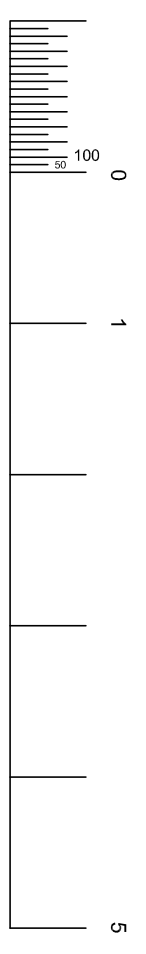
Drawing No: J0080820 - 01 Rev: -

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Written dimensions are to take precedence over scaled dimensions.





# EXISTING FIRST FLOOR PLAN. (1:50)



Scale: 1:50

# TENDER

Revisions

## Carter Jonas

One Station Square, Cambridge, CB1 2GA  
Tel: (01223) 368771  
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Job title:  
MALTMAS FARM,  
MALTMAS DROVE, FRIDAY BRIDGE,  
WISBECH, PE14 0HS.

Drawing title:  
EXISTING FIRST FLOOR PLAN.

Date: 12.04.24 Scale(s): 1:50 @ A3

Drawn by: SWB Checked by: AD

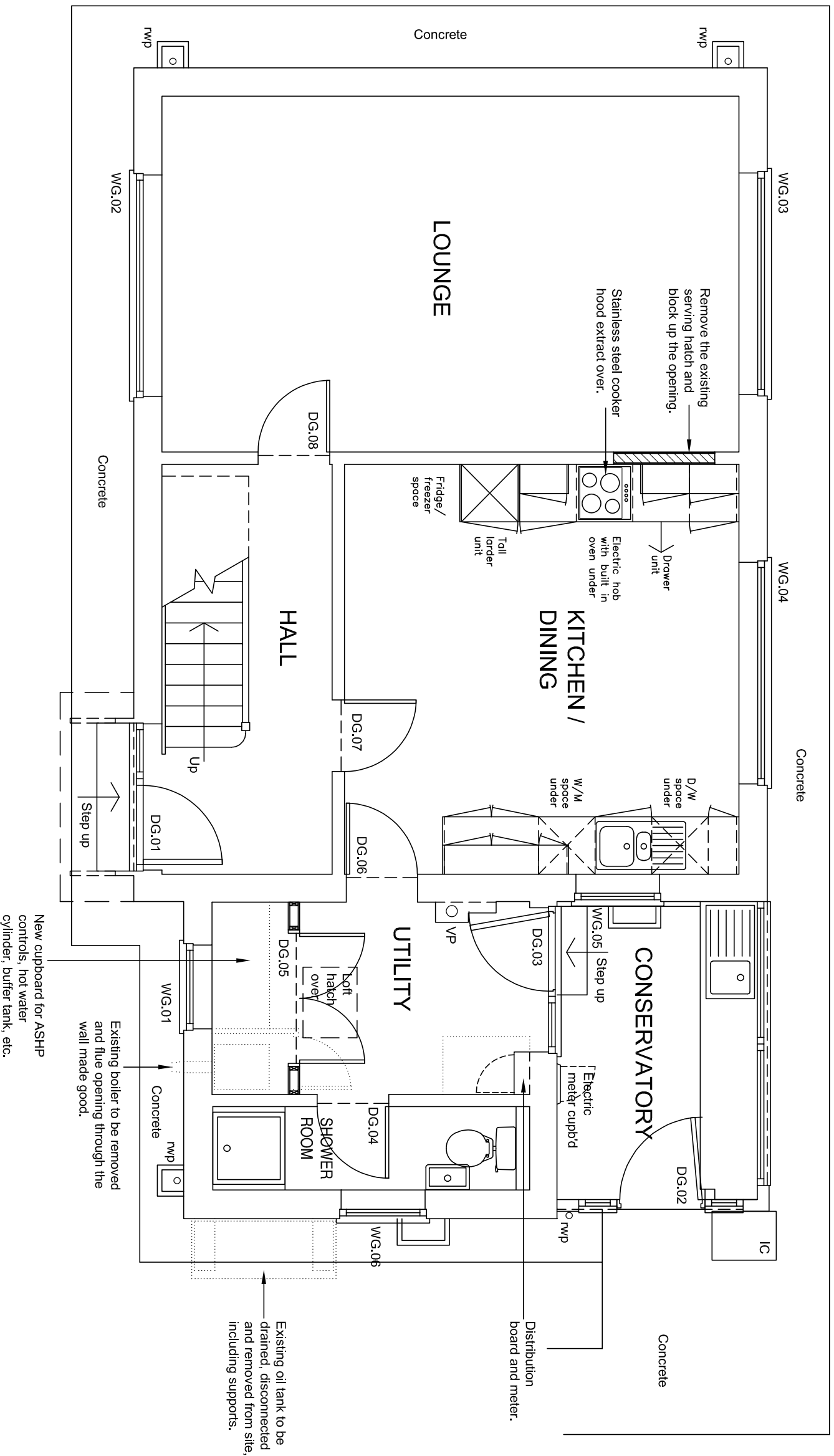
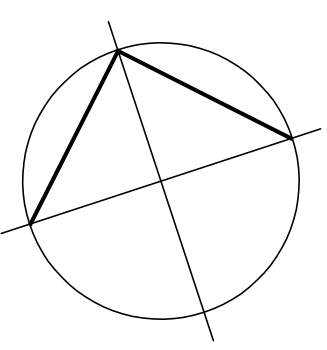
Drawing No: J0080820 - 02 Rev: -

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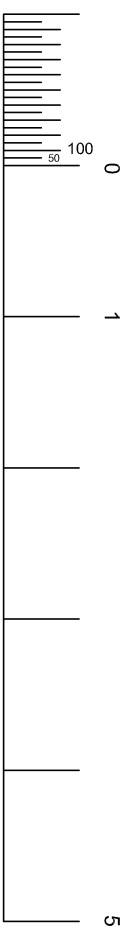


Certificate No: FS 73044





# PROPOSED GROUND FLOOR PLAN. (1:50)



Scale: 1:50

# TENDER

Revisions

## Carter Jonas

One Station Square, Cambridge, CB1 2GA  
 Tel: (01223) 368771  
 Web: www.carterjonas.co.uk

Job title:  
**MALTMAS FARM,  
 MALTMAS DROVE, FRIDAY BRIDGE,  
 WISBECH, PE14 0HS.**

Drawing title:  
**PROPOSED GROUND FLOOR PLAN.**

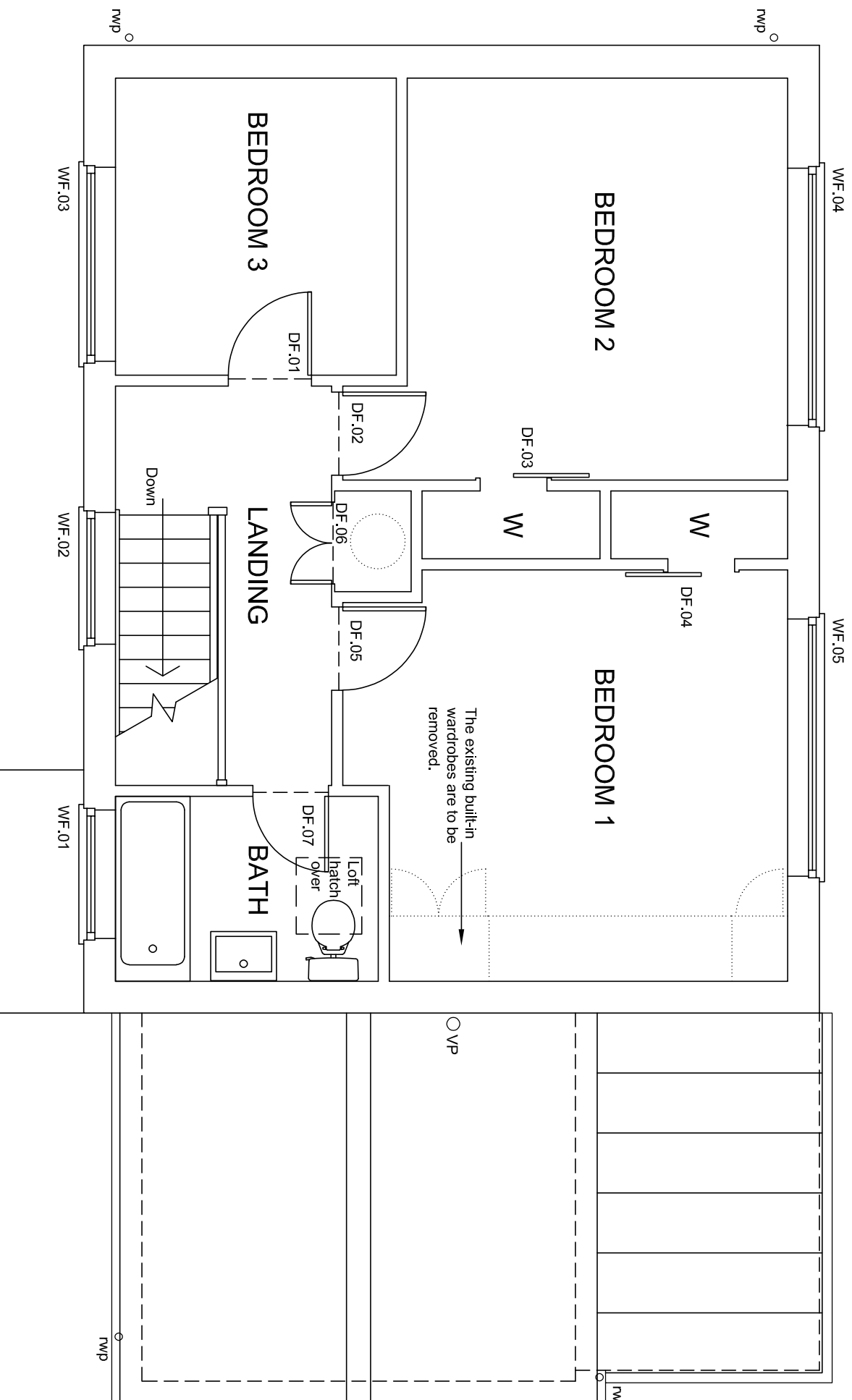
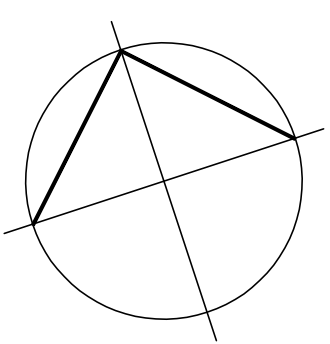
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Drawn by: SWB Checked by: AD

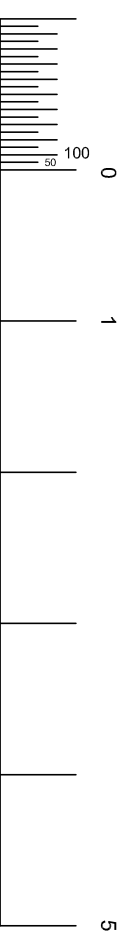
Drawing No: **J0080820 - 03** Rev: -

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# PROPOSED FIRST FLOOR PLAN. (1:50)



Scale: 1:50

# TENDER

Revisions

**Carter Jonas**

One Station Square, Cambridge, CB1 2GA  
Tel: (01223) 368771  
Web: [www.carterjonas.co.uk](http://www.carterjonas.co.uk)

Job title:

MALTMAS FARM,  
MALTMAS DROVE, FRIDAY BRIDGE,  
WISBECH, PE14 0HS.

Drawing title:

PROPOSED FIRST FLOOR PLAN.

Date: 13.06.24 Scale(s): 1:50 @ A3

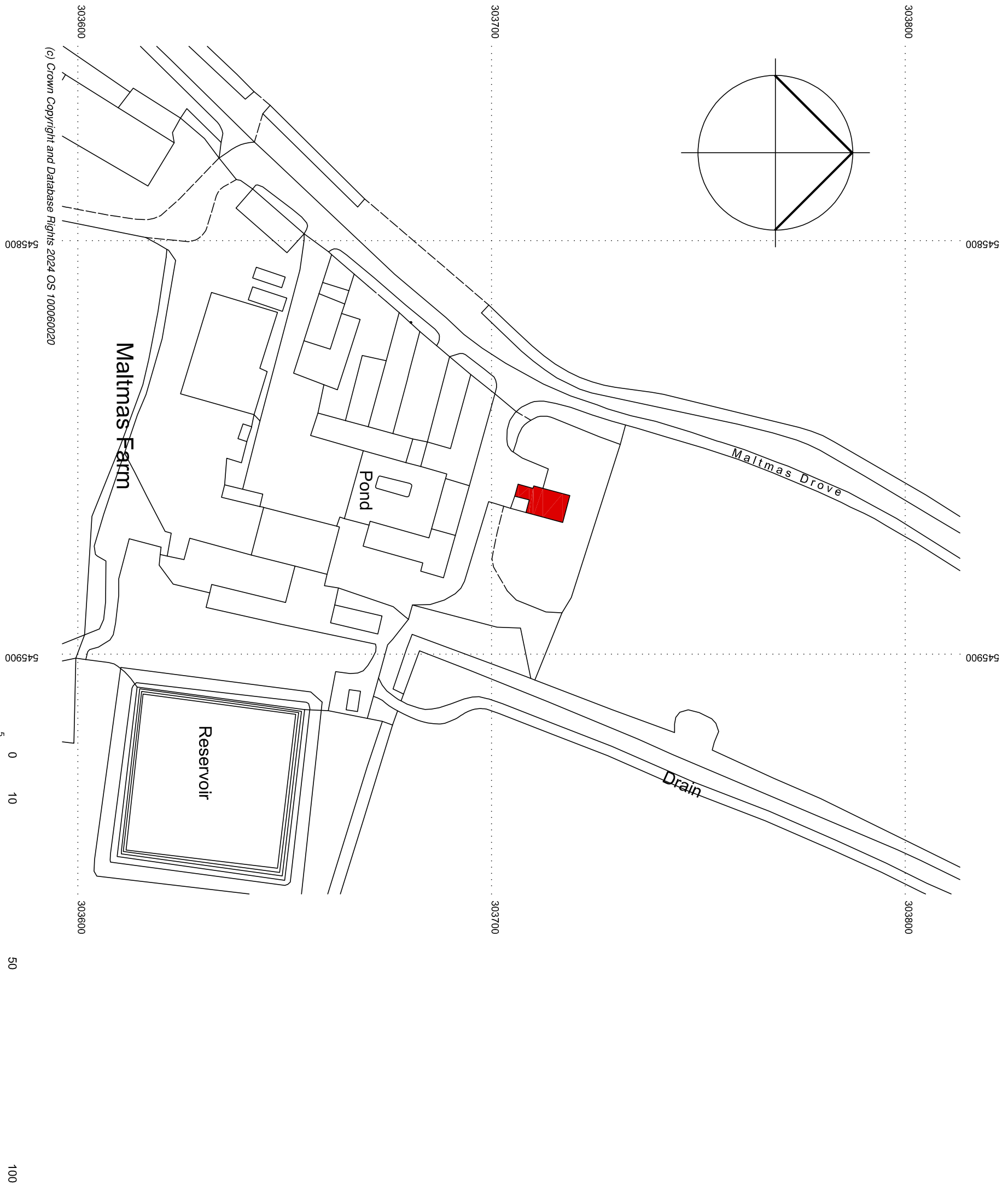
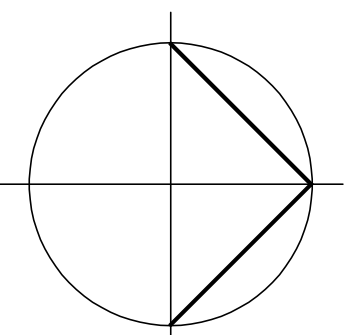
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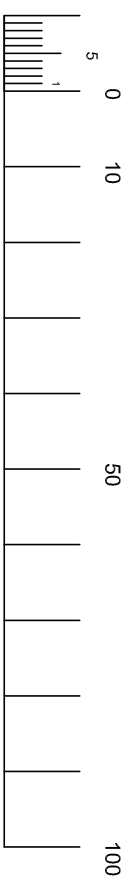
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Certificate No: FS 73044



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# TENDER

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## Carter Jonas

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Tel: (01223) 368771  
Web: [www.carterjonas.co.uk](http://www.carterjonas.co.uk)

Job title:

MALTMAS FARM,  
MALTMAS DROVE, FRIDAY BRIDGE, PE14 0HS.

Drawing title:

LOCATION PLAN.

Date: 06.06.24 Scale(s): 1:1000 @ A3

Drawn by: SWB Checked by: AD

Drawing No: J0080820 - 06 Rev: -

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All dimensions must be checked on site by the contractor.  
Written dimensions are to take precedence over scaled dimensions.





**APPENDIX 4 – ASBESTOS SURVEY**

This is a live report, please ensure you read the disclaimer before relying on this information.



# Asbestos Report

Cambridgeshire County Council

---

**Prepared For**

Cambridgeshire County Council

**Property (306)**

Maltmas Farm

**Site Address**

Fridaybridge

Wisbech  
Cams  
PE14 0HS



---

**Survey Programme**

All available data

**Survey Date(s)**

04/06/2003 - 02/12/2021

**Survey Type(s)**

2 - Sampling Survey,  
RI - Re-inspections

**Surveyed By**

Hallas - Asbestos Company,  
Matthew Townsend - Acorn Analytical Services

---

**Report Date**

19/04/2024

**Report No**

Live Report

**Reviewed By**

sarah goodier

**Signature**

## CONTENTS

1. Disclaimer
2. Asbestos Register
3. Recommended remedial actions
4. Asbestos Register Details



# 1. DISCLAIMER

## GENERAL LIMITATIONS ENCOUNTERED DURING THE SURVEY

Whilst inspections were being carried out, the following limitations were encountered giving rise to the specific exclusions noted below. Overall, this report has been limited to those areas that were made available for inspection, and the work has been undertaken on the basis that all relevant information was made available by the client.

Due to the no access issues encountered on site and those inherent to a non-destructive survey, asbestos containing materials (ACM) should be presumed present in all such areas until proven otherwise.

The building was occupied during the survey and this may affect the accessibility to some locations (e.g. within a suspended ceiling void in a busy office) or restricted the sampling of some materials for health and safety reasons. Specific restricted access issues will be noted in 'Areas of No Access'.

Where voids have been created behind solid materials such as plaster board or floor boarding and where access to such voids would have necessitated damaging the building and/or its decoration such areas were accordingly considered outside the scope of this type of survey. Confined spaces found on the site were not accessed due to health and safety implications in such areas.

Where samples have been taken for analysis, no further inspection was carried out beyond this suspect material at the time of the survey. This is in order to fulfil our obligations to the Control of Asbestos at Work Regulations (CAWR).

Sampling has been undertaken of textured finishes (such as artex); in some instances the results of these samples vary from location to location. Where asbestos is identified in these materials then all such materials should be presumed to contain asbestos until site specific localised sampling is undertaken to establish if asbestos is present in the proposed works location.

The survey has been carried out using stepladders to access materials that are generally beyond the reach of the surveyor. Accordingly, the survey is typically restricted to elements that are less than 4 metres in height as specialist access equipment (e.g. platform) is generally required for high level access (e.g. roofs and soffits, rainwater goods, flue cowls)

Applied plaster finishes found within the property may conceal some asbestos materials (e.g. infill panels). Gaining access through plaster would have resulted in damage to the building and its decoration and was not carried out during the survey.

Where suspect materials have been identified but the taking of a representative sample or gaining access to carry out controlled sampling would compromise the integrity or function of the material, then sampling would not have been undertaken (e.g. roofing felts, skylight seals, electrical flash-guards).



Sealed in-situ panels such as those that are well painted or covered or those with irregular fixings were not removed as part of the inspection due to causation of decorative damage. The internal cores of all doors and fire doors have not been inspected due to causing excessive damage

Damp courses and other materials such as asbestos felts, bitumen sink pads and floor tile adhesive have not been sampled during this survey. All these material types should be presumed to contain asbestos until proven otherwise. Mastics, plugging materials and fillers have not been sampled during the course of the survey. All these material types should be presumed to contain asbestos until proven otherwise.





## 2. ASBESTOS REGISTER

\* Key: ACM - Asbestos Containing Material, NAD - No Asbestos Detected (Within Survey Scope), NADIS - No Asbestos Detected (In Sample)

PRO - Product Type , ASB - Asbestos Type, DAM - Damage, SUR - Surface Treatment

### Asbestos Register

Code	Type	Building	Locations	Location Description	ACM	Sample	Product Type	Asbestos Type	Overall Risk		
ASB03919	RI	2000602 - Farm Building		Roof - Soffits (Material:Insulation Board/Panel) Loc: External Presumed to still be present beneath uPVC soffits.	Known	306/S1/07	Asbestos insulating board, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.	Amosite (amphibole - brown asbestos) excluding Crocidolite	6	Low	
ASB03920	RI	2000602 - Farm Building		Wall and roof - Wall and roof (Material:Cement) Loc: External Areas of broken cladding sheets and flashings causing associated debris to the floor.	Known	306/S1/08	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	5	Low	
ASB03910	RI	2000602 - Farm Building	/ 0001 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 0001	Known		Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	
ASB03912	RI	2000602 - Farm Building	1 / 1001 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 1001	Known		Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	







## Asbestos Register

Code	Type	Building	Locations	Location Description	ACM	Sample	Product Type	Asbestos Type	Overall Risk		
ASB03917	RI	2000602 - Farm Building	1 / 1002 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 1002	Known	306/S1/05	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	
ASB03918	RI	2000602 - Farm Building	1 / 1003 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 1003	Known	306/S1/06	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	
ASB03913	RI	2000602 - Farm Building	1 / 1004 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 1004	Known		Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	
ASB03921	RI	2000602 - Farm Building	1 / 1005 - Unknown	Ceiling - (Material:) Loc: 1005	No Access						
ASB03906	RI	2000602 - Farm Building	G / 0001 - Unknown	Services - Shires cistern (Material:Eternite) Loc: 0001 Item has been replaced with a ceramic cistern.	Removed	306/S1/01					
ASB03914	RI	2000602 - Farm Building	G / 0002 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 0002	Known	306/S1/02	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	
ASB03911	RI	2000602 - Farm Building	G / 0003 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 0003	Known		Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	




## Asbestos Register

Code	Type	Building	Locations	Location Description	ACM	Sample	Product Type	Asbestos Type	Overall Risk		
ASB03915	RI	2000602 - Farm Building	G / 0004 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 0004	Known	306/S1/03	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	3	Very Low	
ASB03916	2	2000602 - Farm Building	G / 0005 - Unknown	Ceiling - Artex on ceiling (Material:Artex) Loc: 0005	NADIS	306/S1/04					
ASB03907	RI	306B1 - Barn 1		Services - Barn 1 - Gutters and downpipes (Material:Cement) Loc: 306B1 Areas of the gutters are flaking causing associated debris to the floor.	Known	306/S1/09	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	5	Low	
ASB03922	RI	306B1 - Barn 1		Wall and roof - Barn 1 - Wall and roof sheets (Material:Cement) Loc: 306B1 Areas of broken cladding sheets and flashings causing associated debris to the floor.	Known		Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	5	Low	
ASB88361	RI	306B1 - Barn 1		S001 - Cement debris to the floor - 3 m <sup>2</sup> The cement debris is scattered sporadically to the perimeter of the building. Presumed to be more beneath the undergrowth.	Known	S001	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	11	Low	
ASB03908	RI	306B2 - Barn 2		Wall and roof - Barn 2 - Wall and roof sheets (Material:Cement) Loc: 306B2 Small areas of damage which is causing associated debris to the floor.	Known	306/S1/10	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	5	Low	





**Asbestos Register**











Code	Type	Building	Locations	Location Description	ACM	Sample	Product Type	Asbestos Type	Overall Risk		
ASB03909	RI	306B2 - Barn 2		Services - Barn 2 - Gutters and downpipes (Material:Cement) Loc: 306B2	Known	306/S1/11	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	4	Very Low	
ASB88362	RI	306B2 - Barn 2		S002 - Cement debris to the floor - 3 m <sup>2</sup> The cement debris is scattered sporadically to the perimeter of the building. Presumed to be more beneath the undergrowth.	Known	S002	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)	Chrysotile (white asbestos)	11	Low	



### 3. RECOMMENDED REMEDIAL ACTIONS

This section lists recommended remedial actions to reduce the asbestos risk. In some cases, a priority and complete by date are given. Where costs are given, these are for indication only.

#### Action Plan

Code	Location	Complete	Risk	Priority
Encapsulate				
ASB03922	306B1 - Barn 1 -		Low	B - Within 6 months 
Establish monitoring regime (inspection and reassurance)				
ASB03906	2000602 - Farm Building - G / 0001 - Unknown		No Score	D - 2-5 years
ASB03907	306B1 - Barn 1 -		Low	D - 2-5 years
ASB03908	306B2 - Barn 2 -		Low	D - 2-5 years
ASB03909	306B2 - Barn 2 -		Very Low	D - 2-5 years
ASB03910	2000602 - Farm Building - / 0001 - Unknown		Very Low	C - Within 2 years 
ASB03911	2000602 - Farm Building - G / 0003 - Unknown		Very Low	C - Within 2 years 
ASB03912	2000602 - Farm Building - 1 / 1001 - Unknown		Very Low	C - Within 2 years 
ASB03913	2000602 - Farm Building - 1 / 1004 - Unknown		Very Low	C - Within 2 years 
ASB03914	2000602 - Farm Building - G / 0002 - Unknown		Very Low	C - Within 2 years 
ASB03915	2000602 - Farm Building - G / 0004 - Unknown		Very Low	C - Within 2 years 
ASB03917	2000602 - Farm Building - 1 / 1002 - Unknown		Very Low	C - Within 2 years 
ASB03918	2000602 - Farm Building - 1 / 1003 - Unknown		Very Low	C - Within 2 years 
ASB03919	2000602 - Farm Building -		Low	B - Within 6 months 



**Action Plan**

<b>Code</b>	<b>Location</b>	<b>Complete</b>	<b>Risk</b>	<b>Priority</b>
ASB03920	2000602 - Farm Building -		Low	D - 2-5 years



## 4. ASBESTOS REGISTER DETAIL

The following pages show the full detail for each asbestos inspection throughout the buildings and site areas. Included are: the location, full risk assessment breakdown, photographs, and any recommended actions. Only Known, Presumed and Strongly Presumed inspections will be shown.

### Material Risk

Score	Product Type
0	Not Identified
1	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc)
2	Asbestos insulating board, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt
3	Thermal insulation (e.g. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing

Score	Extent of Damage
0	Good condition: No visible damage
1	Low damage: a few scratches or surface marks; broken edges on boards, tiles etc
2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres
3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris

Score	Surface treatment
0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles
1	Enclosed sprays and lagging, asbestos insulating board (with exposed face painted or encapsulated), asbestos cement sheets etc
2	Unsealed asbestos insulating board, or encapsulated lagging and sprays
3	Unsealed laggings and sprays

Score	Asbestos Type
0	Not identified
1	Chrysotile (white asbestos)
2	Amosite (amphibole - brown asbestos) excluding Crocidolite
3	Crocidolite (amphibole - blue asbestos)



**Priority Risk**

Score	Primary/Secondary Activities
0	Rare disturbance activities (Store Room, Risers, Attics, Boiler Room)
1	Low disturbance activities (Offices, ICT, Library, WC's)
2	Periodic disturbance activities (Classrooms, Labs, Hall, Refectory or areas where ACM contact is possible)
3	High disturbance activities (Corridor, Gym, Playground, eg fire door in corridor in constant use)

Score	Location	Score	Accessibility	Score	Amount
0	Outdoors	0	Inaccessible or unlikely to be disturbed.	0	Small amounts or items (e.g. strings, gaskets)
1	Large rooms or well ventilated areas	1	Occasionally Disturbed	1	10m <sup>2</sup> or less, or 10m or less pipe run
2	Rooms smaller than 100m <sup>2</sup>	2	Easily Disturbed	2	Between 10 and 50m <sup>2</sup> or between 10 and 50m pipe run
3	Confined Spaces	3	Routinely Disturbed	3	50m <sup>2</sup> or more, or 50m or more pipe run

Score	Number Of Occupants	Score	Frequency of Use	Score	Average Time in Use
0	Never Occupied	0	Never Occupied or infrequently	0	Never Occupied or less than 1 hour per day
1	Between 1 and 3 Occupants	1	Occupied on a monthly basis	1	Between 1 and 3 hours per day
2	Between 4 and 10 Occupants	2	Occupied on a weekly basis	2	Between 3 and 6 hours per day
3	10 or more Occupants	3	Occupied on a daily basis	3	More than 6 hours per day

Score	Maintenance Type	Score	Maintenance Frequency
0	Minor disturbance (e.g. possibility of contact when gaining access)	0	No maintenance or ACM unlikely to be disturbed
1	Low disturbance (e.g. changing light bulbs in AIB ceiling))	1	Once per year
2	Medium disturbance (e.g. lifting one or two AIB ceiling tiles)	2	More than once per year
3	High disturbance levels (e.g. removing many AIB ceiling tiles)	3	More than once per month



## ASB03910

## Known ACM

## Survey Type: RI

**Building** 2000602 - Farm Building  
**Area** / 0001 - Unknown  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Ceilings - Structure  
**Description** Ceiling - Artex on ceiling (Material:Artex) Loc: 0001

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	1	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years

## ASB03911

## Known ACM

## Survey Type: RI

**Building** 2000602 - Farm Building  
**Area** G / 0003 - Unknown  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Ceilings - Structure  
**Description** Ceiling - Artex on ceiling (Material:Artex) Loc: 0003

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
----------------------------	--

Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	1	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years



## ASB03912

## Known ACM

## Survey Type: RI

**Building** 2000602 - Farm Building  
**Area** 1 / 1001 - Unknown  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Ceilings - Structure  
**Description** Ceiling - Artex on ceiling (Material:Artex) Loc: 1001

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	1	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years

## ASB03913

## Known ACM

## Survey Type: RI

**Building** 2000602 - Farm Building  
**Area** 1 / 1004 - Unknown  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Ceilings - Structure  
**Description** Ceiling - Artex on ceiling (Material:Artex) Loc: 1004

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	3	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years



ASB03914

306/S1/02

Known ACM

Survey Type: RI

**Building** 2000602 - Farm Building  
**Area** G / 0002 - Unknown  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Ceilings - Structure  
**Description** Ceiling - Artex on ceiling (Material:Artex) Loc: 0002

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	1	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years

ASB03915

306/S1/03

Known ACM

Survey Type: RI

**Building** 2000602 - Farm Building  
**Area** G / 0004 - Unknown  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Ceilings - Structure  
**Description** Ceiling - Artex on ceiling (Material:Artex) Loc: 0004

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	2	1	3	1	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years





**ASB03917**                      **306/S1/05**                      **Known ACM**                      **Survey Type: RI**

**Building**                      2000602 - Farm Building  
**Area**                              1 / 1002 - Unknown  
**Survey Date**                      02/12/2021  
**Survey Programme**              Original Asbestos Surveys  
**Surveyor**                        Acorn Analytical Services - Matthew Townsend  
**Element**                         Ceilings - Structure  
**Description**                      Ceiling - Artex on ceiling (Material:Artex) Loc: 1002

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

**Priority Assessment**              The Priority Assessment is not applicable and has been excluded for this inspection.

Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	1	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years

**ASB03918**                      **306/S1/06**                      **Known ACM**                      **Survey Type: RI**

**Building**                      2000602 - Farm Building  
**Area**                              1 / 1003 - Unknown  
**Survey Date**                      02/12/2021  
**Survey Programme**              Original Asbestos Surveys  
**Surveyor**                        Acorn Analytical Services - Matthew Townsend  
**Element**                         Ceilings - Structure  
**Description**                      Ceiling - Artex on ceiling (Material:Artex) Loc: 1003

<b>Risk Assessment</b>	Very Low	3	
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<b>Material Assessment</b>	Very Low	3	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	0	1

**Priority Assessment**              The Priority Assessment is not applicable and has been excluded for this inspection.

Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	2	1	1	1	3	3	1	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		C - Within 2 years

ASB03909

306/S1/11

Known ACM

Survey Type: RI

**Building** 306B2 - Barn 2  
**Area**  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Services (General) - Services (General)  
**Description** Services - Barn 2 - Gutters and downpipes  
 (Material:Cement) Loc: 306B2

<b>Risk Assessment</b>	Very Low	4	
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<b>Material Assessment</b>	Very Low	4	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	1	1	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	2	0	0	0	0	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		D - 2-5 years

ASB03907

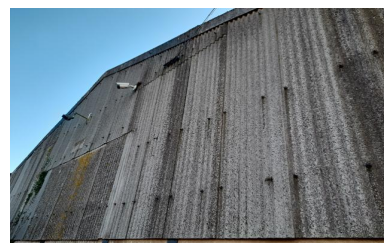
306/S1/09

Known ACM

Survey Type: RI

**Building** 306B1 - Barn 1  
**Area**  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Services (General) - Services (General)  
**Description** Services - Barn 1 - Gutters and downpipes  
 (Material:Cement) Loc: 306B1  
 Areas of the gutters are flaking causing associated debris to the floor.

<b>Risk Assessment</b>	Low	5	
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<b>Material Assessment</b>	Low	5	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	2	1	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
----------------------------	--

Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	2	0	0	0	0	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		D - 2-5 years



ASB03908

306/S1/10

Known ACM

Survey Type: RI

**Building Area** 306B2 - Barn 2

**Survey Date** 02/12/2021

**Survey Programme** Original Asbestos Surveys

**Surveyor** Acorn Analytical Services - Matthew Townsend

**Element** Walls (General) - Walls (General)

**Description** Wall and roof - Barn 2 - Wall and roof sheets (Material:Cement) Loc: 306B2  
Small areas of damage which is causing associated debris to the floor.

Risk Assessment

Low

5



<b>Material Assessment</b>	Low	5	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	2	1	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	3	0	0	0	0	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		D - 2-5 years

ASB03920

306/S1/08

Known ACM

Survey Type: RI

**Building Area** 2000602 - Farm Building

**Survey Date** 02/12/2021

**Survey Programme** Original Asbestos Surveys

**Surveyor** Acorn Analytical Services - Matthew Townsend

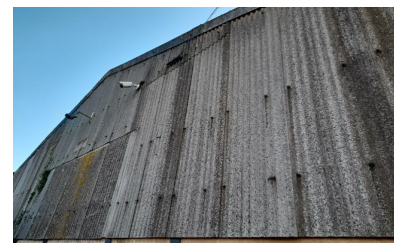
**Element** Walls (General) - Walls (General)

**Description** Wall and roof - Wall and roof (Material:Cement) Loc: External  
Areas of broken cladding sheets and flashings causing associated debris to the floor.

Risk Assessment

Low

5



<b>Material Assessment</b>	Low	5	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	2	1	1

<b>Priority Assessment</b>	The Priority Assessment is not applicable and has been excluded for this inspection.
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	3	0	0	0	0	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		D - 2-5 years



**ASB03922**

**Known ACM**

**Survey Type: RI**

**Building Area** 306B1 - Barn 1  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Walls (General) - Walls (General)  
**Description** Wall and roof - Barn 1 - Wall and roof sheets (Material:Cement) Loc: 306B1  
 Areas of broken cladding sheets and flashings causing associated debris to the floor.

<b>Risk Assessment</b>	Low	5	
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<b>Material Assessment</b>	Low	5	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	2	1	1

**Priority Assessment** The Priority Assessment is not applicable and has been excluded for this inspection.

Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	3	0	0	0	0	1

Actions - Work Description	Complete	Priority
Encapsulate		B - Within 6 months

**ASB03919**

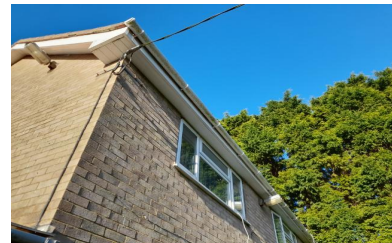
**306/S1/07**

**Known ACM**

**Survey Type: RI**

**Building Area** 2000602 - Farm Building  
**Survey Date** 02/12/2021  
**Survey Programme** Original Asbestos Surveys  
**Surveyor** Acorn Analytical Services - Matthew Townsend  
**Element** Roofs - Structure  
**Description** Roof - Soffits (Material:Insulation Board/Panel) Loc: External  
 Presumed to still be present beneath uPVC soffits.

<b>Risk Assessment</b>	Low	6	
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<b>Material Assessment</b>	Low	6	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
2	1	1	2

**Priority Assessment** The Priority Assessment is not applicable and has been excluded for this inspection.

Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	2	0	0	0	0	1

Actions - Work Description	Complete	Priority
Establish monitoring regime (inspection and reassurance)		B - Within 6 months

ASB88361

S001

Known ACM

Survey Type: RI

**Building Area** 306B1 - Barn 1

**Survey Date** 02/12/2021

**Survey Programme** Original Asbestos Surveys

**Surveyor** Acorn Analytical Services - Matthew Townsend

**Element** Unclassified - Unclassified

**Description** S001 - Cement debris to the floor - 3 m<sup>2</sup>  
The cement debris is scattered sporadically to the perimeter of the building. Presumed to be more beneath the undergrowth.

Risk Assessment

Low

11



<b>Material Assessment</b>	Low	6	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	3	1	1

<b>Priority Assessment</b>	Low	5	
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	1	0	3	3	0	2

No recommended actions

ASB88362

S002

Known ACM

Survey Type: RI

**Building Area** 306B2 - Barn 2

**Survey Date** 02/12/2021

**Survey Programme** Original Asbestos Surveys

**Surveyor** Acorn Analytical Services - Matthew Townsend

**Element** Unclassified - Unclassified

**Description** S002 - Cement debris to the floor - 3 m<sup>2</sup>  
The cement debris is scattered sporadically to the perimeter of the building. Presumed to be more beneath the undergrowth.

Risk Assessment

Low

11



<b>Material Assessment</b>	Low	6	
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Product Type	Extent of Damage	Surface Treatment	Asbestos Type
1	3	1	1

<b>Priority Assessment</b>	Low	5	
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Primary Act.	Secondary Act.	Location	Accessibility	Amount	Occupants	Frequency	Average Time	Maint. Type	Maint. Freq.
1	0	0	0	1	0	3	3	0	2

No recommended actions



**APPENDIX 5 – AIR SOURCE HEAT PUMP DESIGN CRITERIA:**



## **Air Source Heat Pump Design Criteria:**

### **1.0 Scope:**

- This guidance covers the provision of heat pump specification and design guidance for low temperature space heating systems in domestic dwellings (heat loss).

### **2.0 Requirements:**

- The durability of any external heat pump must be confirmed as appropriate for the installed location including coastal locations or installation at high level.
- The heat pump installed must be installed by an appropriately trained individual and commissioned in accordance with manufacturer's instructions. A maintenance programme designed to ensure longevity of the appliance must be offered by the manufacturer or manufacturer's agents or installer.

### **3.0 EU Product directives to be complied with (depending on heat pump type):**

- 2014/35/EU - Low voltage directive (LVD)
- 2006/42/EC machinery directive (MD)
- 2014/30/EU - Electromagnetic compatibility directive (EMC)
- 2014/68/EU Pressure equipment directive (PED).
- 2011/65/EU Restriction of hazardous substances (RoHS) in electrical and electronic equipment
- 2015/863/EU Amending directive to 2011/65/EU.
- 2017/2102 EU Amending directive to 2011/65/EU
- 2009/125/EC Energy related products directive (ErP)
- 813/2013/EU eco-design requirements heat pumps.
- 814/2013/EU ecodesign requirements of water heaters and water tanks.

### **4.0 Normalised standard references (depending on heat pump type):**

- BS EN 60335-1 Household and similar electrical appliances safety (heat pumps).
- BS EN 60335-2 Specification for safety of household and similar electric appliances (heat pumps)
- BS EN 62233 Measurement methods for electromagnetic fields of household appliances.
- BS EN 55014-1 Electromagnetic compatibility.
- BS EN 55014-2 Electromagnetic compatibility
- BS EN 61000-3-2 Electromagnetic compatibility limits for harmonic current emissions
- BS EN 61000-3-3 Electromagnetic compatibility limitation of voltage changes
- BS EN 50581 Technical documentation for the assessment of electrical/electronic products (RoHS)
- BS EN 12102-1 Determination of the sound power level compressors
- BS EN 12102-2 Determination of the sound power level heat pump water heaters
- BS EN 12309 1-7 Gas fired absorption heat pumps not exceeding 70kW
- BS EN 13203-5 DHW testing standard for hybrid boiler
- BS EN 14511-1 Heat pumps terms and definitions
- BS EN 14511-2 Determination of the sound power level heat pump water heaters
- BS EN 14511-3 Heat pump test methods
- BS EN 14511-4 Heat pumps for space heating and cooling with electrically driven compressors
- BS EN 14825 Calculation of seasonal performance
- BS EN 15879-1 Testing and rating of direct exchange ground source heat pumps for space heating
- BS EN 16147 Testing and performance rating and marking requirements for domestic water units
- BS EN 16905 1-5 Gas fired endothermic engine driven heat pumps

Date: 14.06.24

### 5.0 UK Building Regulations:

- England and Wales ADL & ADJ, Part F Northern Ireland or Scottish Technical Handbook

### 6.0 UK Certification:

- A manufacturer's Declaration of Conformity (DOC) detailing the appropriate standards complied with should be provided together with the certification from a registered UKAS certification body confirming compliance with the relevant standards.

### 7.0 UK product and installation guidance:

- MCS certified or other relevant and recognized body
- MIS 3005-i Heat pump installation
- MIS 3005-D Heat pump design
- CIBSE Domestic heating compliance guide

### 8.0 Space heating design considerations for low temperature systems:

- Type and suitability
- Where required "F" gas regulations must be complied with
- Back up heating requirements
- Buffer tanks to prevent short cycling
- Suitable fixings
- System and design to be included within SAP/ Part L and ensure compliance
- Running costs

### 9.0 Requirements for heat pump space heating design:

- The heat pump selected should provide not less than 100% of the calculated design space heating power requirement at the winter design condition and include any energy required for defrost cycles. Any supplementary electric heating shall only operate when the conditions are outside of the design principle detailed in this document.

### 10.0 Heat loss:

- All heat loss calculations should be in accordance with recognised standards and guidance, e.g., CIBSE Domestic Heating Design Guide or other approved.
- Fabric heat loss should be based on the building design and thermal conductivity of the materials from which the element is constructed.
- The heating designs must include allowances where applicable for thermal bridging.

**Additional values to be added to the U value based on construction type as set out by CIBSE domestic heating design guide (other suitable methods are used within SAP):**

Type of construction:	Additional thermal transmittance to be added W/m <sup>2</sup> K:
Buildings built with a high level of heat insulation (over and above national standards) and implement minimisation of thermal bridging	0.02
Buildings built to current national standards and in compliance with recognised practices regarding the minimisation of thermal bridging	0.05
Buildings with exterior wall insulation broken by solid ceilings (e.g., reinforced concrete)	0.15
All other buildings	0.1



### 11.0 Indoor design temperatures:

Room:	Temp °C	Room	Temp °C	Room	Temp °C
Lounge/sitting room	21	Cloakroom/WC	21	Internal room or corridor	21
Living room	21	Toilet	21	Bedroom/study	21
Breakfast room	21	Utility room	21	Landing	21
Dining room	21	Study	21	Bathroom	22
Kitchen	21	Games room	21	Shower room	22
Family/breakfast room	21	Bedroom	21	Dressing room	21
Hall	21	Bedroom with ensuite	21	Storeroom	21

Where elevated temperatures are required for frail, elderly, or infirm use 23°C.

### 12.0 External design temperatures:

**Typical winter external design temperatures for sites in the British Isles up to 50m above sea level. Based on CIBSE domestic heating design guide:**

Region:	Latitude:	Outdoor design temperature °C:	Ground reference temperature (winter mean °C):
Scotland & Isles	56-60°N	-5	+5.5
Northern England & Northern Ireland	54-56°N	-4	+6.0
Midlands, Wales and ROI	52-54°N	-3	+6.5
London, SW England	51-52°N	-2	+7.0
Southern England	50-51°N	-1	+7.5

- To account for altitude the outside design temperature should be lowered by 0.3°C for every additional 50m above sea level or 1°C if in proximity of the coast or river or steep cliff.
- When calculating a basement or ground floor heat loss the ground reference temperatures should be used.
- When calculating heat loss to adjoining properties they should be treated as unheated, in these instances the temperature used should be the same as the UK mean of 10°C.
- Heat transfer between rooms in the same property can be disregarded if the same indoor temperature is used for all rooms.

### 13.0 Ventilation heat loss:

Ventilation heat loss will depend on the rate at which the air leaves or enters the building. When calculating use the as built air change rate if known otherwise overheating or under heating may occur in given situations. If not known the below information is taken from the CIBSE domestic heating design guide.

#### **Air changes per hour for new build housing complying with current building regulations England and Wales Part F, Northern Ireland Part K, Scottish Technical Handbook**

\* Where mechanical extract ventilation is to be installed in a room and the extract volume exceeds the natural infiltration, due allowance for the air extracted from any connecting room or corridor must be made.

Room:	ACH
Lounge/sitting room	0.5
Living room	0.5
Breakfast room	0.5
Dining room	0.5
Kitchen	0.5
Family/breakfast room	0.5*
Hall	0.5

Room:	ACH
Cloakroom/WC	1.5*
Toilet	1.5*
Utility room	0.5*
Study	0.5
Games room	0.5
Bedroom	0.5
Bedroom with ensuite	1.0

Room:	ACH
Internal room or corridor	0.0
Bedroom/study	0.5
Landing	0.5
Bathroom	0.5*
Shower room	0.5*
Dressing room	0.5
Storeroom	0.5

Where a room contains an open fire or chimney, allowances to the ventilation rate must be made as detailed in CIBSE domestic heating design guide.

#### 14.0 Heat pump system considerations:

- The heat pump selected should provide not less than 100% of the calculated design space heating power requirement at the winter design condition and include any energy required for defrost cycles. Any supplementary electric heating shall only operate when the conditions are outside of the design principle detailed in this document.
- Air source heat pumps are to be selected from either Mitsubishi or Daikin ranges.
- Radiators are to be selected from the Stelrad Home Series Classic Compact ranges.
- Dual fuel towel rails – Lazzarini – to the Bathroom and Shower Room.
- Design mean water temperature (MWT) 42.5°C the design can utilise design mean water temperature (MWT) lower than this.
- The number and sizing of heat emitters eg. radiators or size of underfloor system must be sized to the design mean water temperature (MWT).
- The system pipework or underfloor heating must be sized to the design mean water temperature (MWT).
- The heat pump must have a minimum coefficient of performance of 3.0 for space heating.
- The heat pump must have a minimum Seasonal Coefficient of Performance of 2.7.
- The heat pump must control the pump operation.
- The heat pump must control any outdoor fan operation.
- The heat pump must control the defrost cycle for the external air side.
- Weather compensation or internal temperature control must be adopted with all heat pumps.
- Where the dwelling contains other heat sources all control should be done from a singular control unit.
- Controls need to be appropriately located and easy to access.
- Heat pumps should not be sited adjacent to sleeping areas or located on materials that transmit vibration.
- Heat pumps must be correctly sited and installed to minimize noise impact.
- Buffer tanks must be correctly designed to the system.
- A suitable electrical supply must be provided to ensure power and amperage.
- Manufacturer's installation instructions must be followed with respect to installation clearances and free space around heat pumps.
- Where required safety guards must be supplied to prevent risk of injury or damage.
- Internal systems must be hydraulically balanced to ensure correct performance.

Date: 14.06.24