

**PRELIMINARY SPECIFICATION OF WORKS**

**CONVERSION OF THE EXISTING BARNS OF THE FORMER RIDING SCHOOL**

**TO 6No. COMMERCIAL UNITS (A2 / B1 Use Class or Workshop)**

**AT**

**PETTISTREE HALL, SUTTON, WOODBRIDGE, IP12 3EH**

**PRELIMINARY ISSUE**

Prepared by Peter Wells Architects Ltd. – January 2019

## **1.0 Introduction**

This document has been prepared to outline a brief scope of works involved in converting the existing redundant barn buildings located at Pettistree Hall, Sutton, Woodbridge, Suffolk to commercial use.

An Historic Asset Assessment has been produced by Leigh Alston (Architectural Historian), dated February 2017, and this places the retained barns in a historical context. The barns are not listed but are considered to be a Non Designated Heritage Asset and worthy of retention. This is discussed in greater length within this report.

The Riding for the Disabled Association have previously occupied the buildings at Pettistree Hall Farm however the Charity have now relocated. As a result, the existing site has become redundant and it is intended to convert the existing complex of barns from Sui Generis Use Class to A2 / B1 Use Class or Workshop.

## **2.0 Demolitions, Clearance of site and General Preparations**

- 2.1 All existing hard standing areas are deemed to be in a poor state of repair and are to be lifted and removed in preparation for new landscaping works to be carried out.
- 2.2 It is assumed that all loose items and furniture will have been cleared from the premises, however any remaining items should be cleared and discarded appropriately. All Existing fixture and fittings, including sanitary ware and kitchen items, are believed to be inadequate and should be stripped out and discarded.
- 2.3 All existing electrics and plumbing is believed to be out of date / inadequate and all cabling, pipework, and associated items should be stripped out and removed.
- 2.4 All existing roof coverings and rainwater goods should be carefully removed and retained for possible re-use.
- 2.5 All existing windows and doors/frames are to be removed and discarded.
- 2.6 Areas previously used as stables are to be cleared of masonry partitions/gates/fittings to provide clear open spaces.
- 2.7 It is assumed that the existing concrete floor slabs are inadequate and offer varying levels which may pose problematic with the conversion work, therefore it is believed that the slabs should be removed to allow new ground bearing concrete floor slabs to be installed to the correct specification and to achieve the desired finish floor levels.
- 2.8 A demolition / refurbishment asbestos survey is required to identify if there may be asbestos or asbestos containing products within the building. If found it is to be carefully removed from site by a contractor that has a duty of care certificate issued by the Environment Agency. All waste to be taken, with care, to a refuse area that is a registered waste carrier. Appropriate Health & Safety guidance to be adhered to when dealing with asbestos. Other products may be hidden within the structure, if found when opened up, they are to be left intact & a specialist called to identify.

## **3.0 Structural Condition / Inspections**

- 3.1 The existing foundations are thought to be in a generally good condition and adequate for the use, however a thorough inspection of all the foundations across the complex should be carried out by a structural engineer to determine whether any settlement has occurred and if any remedial works are required. It has been noted that due to poor roof drainage arrangements in some areas, localised settlement and cracking in the masonry has occurred.

- 3.2 The external walls are again believed to be in a generally good state of repair. However a thorough inspection of all the external wall construction across the complex should be carried out by a structural engineer to determine their condition. It has been noted that there is a stretch of brick wall that lacks movement joints and has resulted in an outward bow, and although it has not caused any instability, it will require bracing / attention during the refurbishment works.
- 3.3 Existing brickwork to be inspected for defects/faults. Any remedial works including brickwork repairs & stitching that may be required should be carried out in accordance with Structural Engineers details.
- 3.4 Existing walls / ground floor junctions to be inspected by a specialist damp proofing contractor and any remedial works required to the existing DPC's is to be in accordance with the specialists advice as recommended in their report. It is expected that an injected DPC will be required.
- 3.5 Existing timbers (roof timbers, roof trusses etc.) to be inspected by a specialist contractor for signs of insect damage & decay. Damaged timbers to be removed & replaced with new to match sizes. Inspection is to include all roof timbers paying particular attention to any valleys & box gutters. All existing timbers to be treated by a timber preservation specialist who can issue a guarantee upon completion. Works are to be carried out by a specialist contractor in accordance with the current regulations/legislation. It has been noted that due to poor roof drainage, that localised replacement of rafters and valley beams will be required.

#### **4.0 Openings and Structural Works**

- 4.1 All remedial / repair works required from the inspections mentioned in item 3 above are to be adhered to and carried out in accordance with the structural engineers / specialists advice/details.
- 4.2 The complex is proposed to be divided up to provide 6no separate commercial units and therefore, where required, existing openings will need to be filled and closed off to meet the required separation requirements in terms of fire and noise.
- 4.3 Areas of new external walls are proposed to be constructed; therefore new foundations should be constructed in accordance with structural engineer's details.

#### **5.0 Upgrade of Existing Elements**

- 5.1 Ground floor constructions are to be new construction following removal of existing slabs. Typical Ground Floor construction to consist of floor finish over 75mm cement/sand screed with reinforcement on 500gauge polythene vapour control separating layer; on 70mm PIR insulation or equal approved insulation installed strictly in accordance with manufacturers instructions (provide 25mm insulation as up stands to perimeters); on 1200gauge D.P.M by Visqueen or similar approved taken up to meet existing DPC with lapped & taped joints as manufacturers recommendations; all over new ground bearing concrete slabs constructed in accordance with structural engineers details, typically consisting of 150mm thick Gen 3 concrete slab over 50mm sand blinding over 150mm well compacted type 1 hardcore. All to achieve a minimum U-Value of 0.22 W/m<sup>2</sup>K.
- 5.2 Areas of external walls are to be upgraded to achieve a minimum U-Value of 0.30 W/m<sup>2</sup>K. Existing walls are assumed to be solid brick walls (assumed to be 220mm thick o/a) to be retained; carefully remove any perished plaster and repair as necessary; clean up as necessary and remove all traces of gloss paint & vinyl wallpaper that may be present to ensure that walls are permeable.

Fix (using mechanical fixings) 72.5mm thick thermal insulation board (consisting 60mm PIR insulation bonded to 12.5mm plasterboard) to 25x50mm treated timber battens (with DPC strips stapled to back) screw fixed to external walls. Joints between boards must be tight, taped and jointed to form vapour control layer. Manufacturers installation instructions are to be followed. Window reveals are to be lined with thin thermal plasterboard boards (fitted in accordance with manufacturers fitting instructions) to reduce thermal bridging. All walls and reveals to then receive a skim coat finish ready for decoration.

- 5.3 It is assumed that the existing roof tiles will be stripped and retained for re-use where necessary. New tiles to be installed where required to meet planning obligations. Slate or Pan tiles (specifications and locations to be all in accordance with planning drawings approved by the Local Planning Authority) to be fixed to 25x38mm (or size stated by tile manufacturer) treated swd tiling battens to BS5534, with maximum spacing to manufacture's recommendations. Tiles to be laid and clipped to manufacturer's recommendations. Underlay to be Tyvek Supro Plus breather membrane fixed between battens and trusses/cut rafters. Eaves protection strips to BS 747:2000 Type 5U to be fitted, ie. Glidevale pvc-U eaves skirt. Fascia ventilator by Glidevale FV100 and RV601. Glidevale continuous rafter roll to be installed to ensure ventilation zone is maintained above roof insulation. Ventilated ridge tiles to be provided in accordance with manufacturers instructions. All penetrations into the roof space must be sealed and any loft hatches draught sealed.
- Insulation to horizontal ceilings to consist of 100mm Knauf Earthwool Loft Roll 40 within roof truss depth and 150mm Knauf Earthwool Loft Roll 40 over joists cross laid to achieve a U-value Of 0.16W/m<sup>2</sup>K and installed strictly in accordance with manufacturers instructions. Finished on room side with 12.5mm thick plasterboard fixed to ceiling joists and finished with a skim plaster coat ready for decorations.
  - Insulation to sloped ceilings to consist of ventilated cavity from the top of the rafters over the insulation. Between rafters provide 90mm PIR insulation or similar approved tightly fitted between rafters. Below rafters provide 62.5mm thick insulation/plasterboard lining; finished on room side with skim finish to achieve a U-value of 0.18W/m<sup>2</sup>k. All insulation boards to be installed in strict accordance with the manufacturers instructions.
- Note: The above design is based on a roof design incorporating a rafter depth of 150mm at centres no closer than 400mm; if this is to change the Architect should be notified and design amended if necessary.

## **6.0 Construction of New Elements**

- 6.1 Areas of new build elements are to be constructed; therefore new foundations should be constructed in accordance with structural engineer's details.
- 6.2 New external walls should be built to achieve a U-value of 0.28W/m<sup>2</sup>K. Typical wall construction to be a masonry cavity wall consisting of an outer leaf of 100mm thick Forterra Thermalite Shield (3.6N/mm<sup>2</sup>) blocks; 100mm cavity with 100mm thick full fill Knauf Earthwool DriTherm Cavity Slab 32 Ultimate; internal skin of 100mm thick Forterra Thermalite Shield (3.6N/mm<sup>2</sup>) blocks. Please note block spec/strengths to be as above unless otherwise stated by the structural engineer. Walls finished internally using 12.5mm plasterboard on dabs finished with skim coat plaster ready for decorations. Externally provide weatherboarding to specification as approved by local authority, fitted in accordance with manufacturers instructions; fitted to treated s/w battens screw fixed to block work at maximum 600mm centres; over building paper. Cavity behind cladding to be a ventilated space with insect mesh installed at top and bottom.
- 6.3 New roof areas are to be constructed in accordance with structural engineers details and are to achieve a min U value of 0.18 W/m<sup>2</sup>K. Roof construction to consist of VM Zinc Plus Standing Seam roof covering, clipped and fixed to 18mm Exterior grade WBP Plywood in strict accordance with zinc roofing manufacturers installation instructions. Plywood fixed to 50 x 50 treated swd battens creating a well-

ventilated cavity. Standard ventilated ridge and eaves details in accordance with zinc manufacturers details; over VM Zinc roofing membrane to manufacturers specification; over 50 x 220mm treated timber C24 rafters to structural engineers design details and centres; with minimum of 165mm Celotex XR4000 PIR insulation between rafters, maintaining low-e cavity to underside of insulation board. Underside of rafters to be finished with 500g polythene VCL; with 12.5mm plasterboard and skim finish ready for decorations.

- 6.4 New internal partitions are to be constructed to form internal rooms such as toilet facilities. New partitions are to be non-loadbearing and are to typically be timber stud partitions comprising of 12.5mm thick plasterboard (minimum 10 kg/m<sup>2</sup>, e.g. Gyproc WallboardTEN) linings with all joints filled & taped & skim coat to both sides; to 50 x 100mm s/w studwork at 400mm centres braced at appropriate heights, with head and sole plates, additional studs/noggins should be installed for the fixing of medium/heavy weight fixtures as appropriate; include 50mm thick Knauf Earthwool Acoustic Roll or similar approved insulation friction fitted between all studs. Provide 18mm thick WBP plywood between studs to fill heights between 350 and 1550mm from ffl, screwed to battens fixed back to frame to facilitate the fixing of fittings (and future fittings) such as grab rails, kitchen units etc.

## **7.0 Services**

- 7.1 It is assumed that the existing incoming mains electrics, water and telephone/broadband supplies are out of date and do not comply with current standards and regulations. Therefore new connections should be arranged and installed all in accordance with the requirements of the appropriate statutory authorities / service providers. The correct applications should be carried out in accordance with the procedures of the appropriate service provider. New service connections should be taken to new meter locations / entry points, which serve each of the individual commercial units.
- 7.2 New electrical system and consumer units are to be installed within each individual commercial unit all in accordance with specialist contractor/M+E designer's details. All electrical work is to be carried out by an authorised competent person within a self-certification scheme. The 'Part-P' safety Certificate is to be issued upon the project completion to confirm that the electrical installation work has been designed, constructed and inspected and tested in accordance with British Standard 7671 (The IEE Wiring Regulations).
- 7.3 Each unit is to have new lighting system installed. Lighting design to be as per details/design by specialist contractor/M+E designer. All light fittings etc. are to meet the appropriate LUX levels for the intended use of the room/space.  
Lamp holders to be safety design where plungers are isolated when lamps removed and to be heat resistant.  
Provide a low energy lamp for each light fitting. Fixed lighting to only take lamps having a luminous efficacy greater than 60 lumens per circuit-watt are to be provided in the form of LEDs or compact fluorescent lamps.  
Emergency luminaires in accordance with BS 5266 are to be provided throughout each unit.
- 7.4 New heating systems to be installed to each individual unit all in accordance with details/design by specialist contractor/M+E designer. Typical installations to consist of Air Source Heat Pump appropriately located in an external position, serving new under floor heating system fitted within the new ground floor constructions. Associated controller unit, tanks and pumps etc. are to be fitted within appropriately designed storage cupboards. The contractor should ensure that adequate power supply / fused sockets etc. are provided for the heating systems in addition to that shown on the electrical layout. All pipework insulation to be Crown Pipe insulation by Knauf or similar approved all to specialists details & design.  
Responsibility of achieving compliance with Part J rests with the person designing the heating system. Upon completion a commissioning certificate should be provided along with a manual conveying information relevant to the installation.

- 7.5 Provide stopcocks & drain valves at every entry of a mains service into a dwelling; controls to be readily accessible. CWMS to serve sinks, & washing machines. Allow for a limescale inhibitor to be installed on the incoming cwms. Secondary down service to all other fittings. All pipework insulation is to be CFC/HCFC free and the insulant should have zero ozone depletion potential (ODP). The Sub-Contractor shall provide the Main Contractor with manufacturer's literature for all insulation products.
- 7.6 Provide pressurized hot and cold water supply to all kitchen and sanitary fittings with insulated pipework. The contractor is to demonstrate compliance with Part L of the Building Regs, in accordance with the SBEM. All aspects of hot water & heating design to be as detailed & designed by specialist contractor /M+E designer. Hot water provided by the new Air Source Heat Pump installation.
- 7.7 Ventilation to be provided to each commercial unit in accordance with specialist design, either via an appropriately designed mechanical system (which may include air conditioning); or via the use of intermittent extract fans, trickle vents and opening windows providing purge ventilation.
- 7.8 Existing foul and surface water is deemed to be inadequate and out of date. New foul drainage system is to be installed, allowing each individual unit to connect into a system terminating / discharging in to a package treatment plant designed by specialist. Location, sizes and specifications all to specialist contractor design and to the approval of the appropriate statutory authorities such as natural rivers authority / environment agency. New roof drainage and any new positive land drainage to be installed and connected in to new surface water drainage system discharging in to appropriately designed / located soakaways. New surface water drainage system to be designed by specialist drainage engineers.
- 7.9 External drainage will be subject to external ground conditions and to design. All External drainage to be designed in accordance to Drainage and Sewer systems outside buildings BSEN 752. Soakaways are not to be positioned closer than 5m from any building or road or in any unstable land. The construction and size of the soakaway should be in accordance with BS EN 752-4.

## **8.0 Windows and External Doors**

- 8.1 All existing windows and external doors are deemed to be non-compliant with current standards and are in need of replacing. New windows and external doors are to be installed within existing or newly created openings and in accordance with designs/details approved by the local planning authority.
- 8.2 New windows to be timber framed with 28mm low 'E' double glazed units to a specification in accordance with Part L2, and Part K, to achieve a U-value of 1.6 W/m<sup>2</sup>K. (area weighted average). All windows to be lockable with removable key to be to BS7950: 1997 - enhanced security. Windows to be installed strictly in accordance with manufacturers recommendations. Window boards to be painted MDF 25mm round nosed. Trickle vents to head of windows 8000mm<sup>2</sup> (equivilent free area) for general areas; 4000mm<sup>2</sup> for Kitchen and WCs. All windows and doors to be provided with draught seals and gun-applied polysulphide mastic seal at frame/cill perimeters. Internal beading for security and replacement. Apply flexible sealant to all the interfaces between the internal air barrier (plasterboard with skim) & the window/door frame members. Toughened safety glass to BS.6206:1981 to all glazed doors, any adjacent glazing within 300mm of a door, and any glazing extending down within 800mm of floor level. All glass, where appropriate, to carry the BS kite symbol which should be visible upon completion. Windows that open outwards to be fitted with restrictions to limit their opening to 100mm to avoid potential injury from a person coming into contact with an open

- window. Obscured glazing to WC windows.
- 8.3 External doors to be timber framed double glazed units. Glazing details to be as specified by manufacturer in accordance with Part L2, and Part K, to achieve a U-value of 1.6 W/m<sup>2</sup>K. (area weighted average). Ironmongery / Accessories to be as specified by manufacturer, with overhead door closers to BS EN 1154 and panic bar opening where necessary on escape routes. All doors to be provided with draught seals. Perimeter of exterior face sealed with silicone sealant (colour to match door finish). Provide a toughened safety glass inner pane to BS.6206:1981 & a laminated glass outer pane (for security) to pedestrian doors. All glass, where appropriate, to carry the BS kite symbol which should be visible upon completion. Front entrance door to have an effective clear opening width of 1000mm. All external doors are to have a level threshold (with any upstands being no higher than 15mm). All thresholds are to be fitted with threshold drainage channel (ACO hex drain brickslot or similar) and to be connected to surface water drainage system. Front Entrance door is to be a manually operated non-powered door, providing the opening force needed complies with paragraph 2.17a of AD Doc M of the building regulations. If the opening force does not meet requirements, a powered opening door is to be used in accordance with AD Doc M of the building regulations.

## **8.0 Internal Doors, Decorations and Finishes**

- 8.1 All existing internal doors are to be removed and discarded. New internal doors are to be installed within prepared opening fitted with new linings/frames. New doors to be fire-rated where required. Door handles are to contrast against the door & should be able to be opened with a single hand in a closed fist. The opening force required to open the door should not exceed 20N. Doors to have level thresholds to allow for disabled access as required as part of the building regulations Part M. Provide a suitable colour contrast between the wall/floor/door linings etc to cater for visually impaired persons. A minimum 30 points Light Reflectance Value difference must be provided to meet Part M criteria.
- 8.2 Provide new skirtings and architraves throughout. All skirtings to be 19 x 100mm Mdf Bullnose skirting & architraves 19 x 40mm Mdf Bullnose all fixed with suitable adhesive or mechanical fixings sunk below surface ready for decorations.
- 8.3 All skimmed plasterboard walls and ceilings to be painted with three (3) coats vinyl matt emulsion comprising one mist first coat and two full finishing coats. Any painted woodwork to be decorated using satin finish paint comprising knot, stop and one coat primer with one undercoat and two finishing coats. All paintwork to be applied in strict accordance with manufacturer's instructions. All walls and woodwork to be properly prepared and all cracks, depressions and holes etc filled and rubbed down before any decoration work commences. All work to be rubbed down between coats. All paint to be allowed to dry before applying subsequent coats of paint.
- 8.4 Any exposed interior steelwork or timber trusses that are on display, to be site decorated in accordance with paint manufacturers recommendations & provide painted finish suitable for the surface it is covering.
- 8.5 Install new wall tiling to form splash backs within kitchen and WC areas, typically consisting of 150 x 150mm white glazed wall tiles are to be provided min 3 courses (450mm) high above washbasins in WCs and above all worktops in kitchens. Junction between glazed wall tiling with sanitary appliances/worktops is to be neatly sealed with white silicone mastic sealant.
- 8.6 New floor finishes are to be installed throughout. General areas are to be typically finished with contract quality carpet tiles or timber flooring. Non-slip safety vinyl flooring typically installed strictly in kitchen / WC areas. Provide a suitable colour contrast between the wall/floor/door linings etc to cater for visually impaired persons. A minimum 30 points Light Reflectance Value difference must be provided to meet Part M criteria.

## **9.0 Furniture, Fittings and Equipment**

- 9.1 Install new kitchens within each individual commercial unit. Typical kitchen installation will include a range of base / wall units for storage, a sink, a fridge and a dishwasher.
- 9.2 Each commercial unit is to be provided with toilet facilities. Each WC facility is to be fitted with a Doc M compliant unisex wheelchair-accessible toilet pack, including all necessary grab rails, hand dryers, mirrors and bins.

## **10.0 Fire Precautions, Alarms, Access and Security**

- 10.1 Each individual commercial unit is to be fitted with an appropriately designed fire alarm system, designed by a specialist M&E contactor/designer. Fire alarm system to provide suitable audible coverage and manual call points at locations identified by the specialist designer. Fire alarm system design is subject to the Fire Safety Officers comments. Any fire alarm systems should only be installed, modified or repaired by a competent engineer, who should be requested to provide a written statement that the installation &/or modifications comply with the requirements of the current British Standard.  
Portable fire fighting equipment to BS 5306 to be advised on site by Suffolk Fire Service to be located & fixed in accordance with their recommendations by client. The surface linings of walls and ceilings should conform to class 0.
- 10.2 Self contained and inter-linked mains powered detectors with mains re-chargeable battery back up, to BS.5446, part 1 are to be installed as part of the fire alarm system designed by specialist. Connect detectors to dedicated circuit at distribution board. Detectors to be centrally fixed on ceilings and at least 300mm away from any wall. Certification to be provided upon completion for the system installed.
- 10.3 If required, provide security alarm and security cameras to be designed and installed by specialists.
- 10.4 Provide Emergency luminaires in accordance with BS 5266 throughout & as included on the specialist lighting designers drawings/details.
- 10.5 Provide fire escape signage in accordance with BS 5499 and BS 5266 throughout each unit.
- 10.6 If required, install video entry system consisting of entry panels located adjacent to new front and rear access doors, with receivers/monitors to be located at appropriate locations within the units, all as designed by a specialist M&E contactor/designer.

## **11.0 External Works**

- 11.1 Areas of hard standing need to be constructed and installed to provide vehicle access, turning and parking all in accordance with drawings/details approved by the local authority. Ensure the correct numbers of parking spaces are provided including visitor parking bays. All works are to be carried out in accordance with engineer's details to ensure the correct level of specification is provided and so that the drainage of these areas correspond with the overall surface drainage strategy, which will likely include areas of permeable surfacing.
- 11.2 Provide the required cycle and bin storage areas all in accordance with details approved by the local planning authority.
- 11.3 Install external lighting scheme, including car park lighting, entrance lighting to each of the units and security lights as necessary, all as detailed by a specialist M&E contactor/designer.
- 11.4 Carry out works to provide soft landscaping all in accordance with details approved by the



- local planning authority. This will include provision of grassed areas, planting beds, shrubs and possibly new trees.
- 11.5 Install new boundary fences / hedges all in accordance with details approved by the local planning authority.
- 11.6 Provide the required signage for the 6 commercial units, which is likely to include a main sign at the site entrance, individual unit number/name signs, and car park allocation signage.

## **12.0 General Standards and Compliance**

- 12.1 The design and construction to convert the existing building to provide 6 no. commercial units are to comply with all relevant requirements of:
1. Local Authority for Planning
  2. Building Control Body
  3. Fire Service
  4. Warranty provider (as applicable)
  5. Construction (Design and Management) Regulations
  6. Drainage Authority and National Rivers Authority
  7. Any other statutory authority including suppliers of mains services
- 12.2 The development is to be completed in accordance with the governments Simplified Building Energy Model (SBEM). A specialist SBEM Assessor is to be appointed to ensure the correct parameters are designed and met, with compliance certificates issued upon completion.
- 12.3 The development will be subject to an air pressure test and the correct detailing/workmanship effective to meet the criteria as set out in the Target Emission Rating of the SBEM calculation.

**End.**