Masonry external walls to consist of insulated Cavity)
Masonry external walls to consist of insulated cavity construction achieving an overall U-value of 0.28 W/m5k U-value subject to a maximum 25% of glazed openings (calculations required for over 25%).

Use vertical twist type wall ties, to BS 1243, to be fitted as work proceeds at 450mm vertical centres and 750mm horizontal centres reducing to 300mm centres at cavity closures and movement joints.

Lintels to be insulated and be "top hat" style, or have a perforated baseplate with a maximum effective conductivity of 30W/mK. Provide suitable stop ends to outer skin to suit perp joints and a minimum 2no weep vents (at maximum 450mm c/cs). Openings to be provided with prefabricated insulated cavity closer profiles achieving 0.45m5K/W thermal resistance path. Refer to Robust Details 3.09-3.12.

Cavity insulation to be taken at least 150mm below the top of the ground floor insulation and, for gable ends of pitched roofs, at least 250mm above the underside of the roof insulation. Insulation to be fitted in accordance with manufacturers recommendations and Robust Details.

external render application, cavity fully filled with Knauf Earthwool Dritherm Cavity Slab 32 Ultimate insulation, 100mm Durox Supabloc (3.5N/mm5) inner skin, Lightweight plaster or plasterboard on dabs internal finish. Alternative products can be used subject to achieving required U-values and minimum compressive strengths required by Structural Engineer. EXISTING / NEW EXTERNAL WALL ABUTTMENT Provide Furfix wall extension profiles, or similar Provide Furfix wall extension profiles, or similar approved, where new and existing walls adjoin. Bed wall ties into mortar joints and maximum 300mm centres and provide external sealing strip or mastic sealant to manufacturers recommendations.

WALL PLATES

Bed minimum 100 x 50mm treated softwood wall plates, With half lapped joints, for fixing of roof timbers. Provide minimum 1000mm long 30 x 2.5mm galvanized Steel straps at a maximum of 2.0m centres to anchor wall plate.

Screw fix straps to walls with a minimum of 3no by fix straps to walls with a minimum of 3nogs (1st fixing maximum 150mm from bottom). Top to be turned over and nailed to the wall plate

NEW STEEL BEAMS
Install structural steelwork i.e. beams, padstones / bearings, frame etc in accordance with structural engineers drawings/calculations. Downstand beams to be protected on three sides with 15mm Gyproc FireLine Board, fitted in strict accordance with manufactures details, to achieve half hour fire

Provide full height vertical movement joints to external walls in accordance with BS 5628. Joints in blockwork skins to be spaced at approximately 3.0m from corners and at maximum 6.0m centres. Joints in clay brickwork to be spaced at approximately 6.0m from corners and at maximum 12.0m centres.

Alternatively provide bed reinforcement, to increase spacing of movement joints, in accordance with manufacturers design.

Movement joints to be 10mm wide (blockwork) and 16mm wide (brickwork) with flexible cellular polyethylene, cellular polyurethane or foam rubber and be sealed externally. Joints to be carried through wall finishes and provided with plaster stop beads.

Provide flat de-bonded metal ties at 450mm vertical centres across joints.

External cement render to be one 12mm thick 1:1:6 cement/lime/sand undercoat with a dry scratch keyed finish to take 8mm thick finishing coat.

The top coat must be weaker and thinner than the undercoat and generally render must not be stronger than the background material (masonry).

Use course sharp sand to BS 1199/1200 for undercoat and avoid excessive proportions of very fine material for finish coats. Use hydrated limes to BS890. Refer to BS 5252 and masonry manufacturers guidelines for recommended application details.

Provide solid timber horizontal noggins between last truss/rafter and external wall, and between last 3no trusses, at a maximum of 2.0m centres. Install 30 x 5mm galvanized steel lateral restraint straps, to BS5628, to the underside of trusses/rafters/noggins and fix with minimum 4no 75 x 4mm (8SWG) round nails. Strap turn down to be built into the inner skin of the gable wall, held tightly against the centre of a fully bedded block.

PLASTER (lightweight)
Internal plaster finish to be one 11mm thick coat of Internal plaster finish to be one 11mm thick coat of Carlite Browning undercoat lightly keyed to take 2mm thick, steel float finished, Carlite Finish top coat applied in accordance with BS 1191 and manufacture guidelines.

Window/door area of 25% or less of the floor area (plus any openings enclosed by extensions).

All new timber, aluminium or PVC-U windows and rooflights to be double glazed to achieve 1.6 W/m2k U-value, Window Energy Rating (WER) Band C. Glazed doors (glazed more than 50%) to achieve 1.8 W/m2k U-value. Other external doors to achieve 1.8 W/m2k U-value.

Opening elements of windows, doors and rooflights to be provided with draught strips and be fitted in strict accordance with Robust Details (typically details 3.10 and 3.12).

Frames to be provided with trickle vents to achieve a total of 8000mm2 area of ventilation in habitable rooms and 4000mm2 elsewhere.

Windows and external doors, to habitable rooms, to provide a minimum total opening area equivalent to 1/20th of the room floor area for rapid ventilation.

All glazing within critical locations to be provided with safety glazing to BS 6206:1981.

Critical locations are defined as the following:

* All glazing within 800mm of internal or external finished floor levels.

ESCAPE WINDOWS

Scape windows are to be provided to all habitable rooms at irst floor and to ground floor habitable rooms, unless pening directly into a ground floor hall leading to the inal exit.

ny window provided for escape purposes should be fitted ith an opening light which provides an unobstructed pening of at least 0.33m2, and is at least 450mm wide and 50mm high. The bottom of the opening should be installed t a maximum of 1100mm above finished floor level.

INTERNAL WALLS (blockwork)
Internal walls to be 100mm Durox Supabloc with plaster finish (tested to achieve 40dB).
Loadbearing walls to be minimum 3.5N/mm2 unless otherwise specified by the Structural Engineer. Non loadbearing partitions to be connected to loadbearing walls using expanded metal or wall ties at a maximum of 300mm vertical intervals to reduce the risk of cracking.

INTERNAL WALLS (non loadbearing partitions)
Internal partition walls to be 100mm thick sw timber studwork comprising 50 x 100mm sole & head plates bolted down to floor / ceilings. Install 75 x 100mm vertical studs @ 450mm centres and 75 x 100mm noggins (studs are to be minimum 75mm thick). Infill between studs with 50mm Quiet Zone partition roll Insulation (minimum density 10kg/m3), screw fix tapered edge 12.5mm Gyproc Wallboard 10 (minimum mass 10kg/m2) to studs & noggins with taped joints and finish with plaster skim (achieving sound insulation and half hour fire resistance).

Provide coving if required by client to match the existing fixed to ceiling only, to work in conjunction with, and cover, deflection detail.

Install double joists/noggins to support partitions on timber floors.

Partition walls shown on drawings are based or 100mm thick studs and do not total.

Where joists span parallel with external walls, Provide 30 x 5mm galvanized steel lateral restraint straps and solid timber noggins at a maximum of 2.0m centres, carried over 3no joists, for lateral restraint to BS5628.

Provide solid timber packing between end joist and external wall. Notch joists, top or bottom, and fix straps with minimum 2no screws or nails into each joist. Straps to be positioned centrally, built into, and turned over, a full block within the inner skin of the external wall.

Where joists run perpendicular to wall use fully nailed restraint type joists hangers or ensure minimum 90mm bearing of joists built into walls. artition walls shown on drawings are based on Omm thick studs and do not take in to account the asterboard thickness.
Il joints to be well sealed in order to provide all sound insulation particularly to Bedroom alls and walls to rooms containing a water closet.

FIRST FLOOR (timber)
First floor to be 22mm Caberfloor P5 or similar Type C4 T&G moisture resisting flooring grade chipboard (minimum mass 15kg/m2) laid staggered with glued joints, on floor joists, as shown, supported on suitable joist hangers to BS 5669 and BS 4071 or built into walls (with voids sealed) subject to Local Authority acceptance.

Double joists, where installed, to be bolted together 150mm from each end and at 450mm centres, at mid depth, using M12 bolts, toothed plate connectors and 35mm square washers prior to installation. Double up joist centres and provide bearers under baths, appliances and other areas where excessive loads may occur. Provide 38 x 38mm herringbone strutting at mid span centrally for joists spanning 2.5-4.5m, with timber block between wall and last joist at the end of run of strutting where joists are supported on steelwork, hangers or loadbearing intermediate walls. Infill between joists with 100mm Knauf Earthwool Loft Roll 44 insulation (or similar insulation of a minimum density of 10kg/m3) and soffit floor with 12.5mm Gyproc Wallboard 10 (minimum mass 10kg/m2), with staggered scrimmed and paper taped joints, and skim finish to achieve sound insulation and 1/2hr overall fire resistance. Provide 10mm gap to edges of chipboard at room perimeters and support on joists or noggins nailed with min 55mm long ring shank nails at 200-300mm c/cs elsewhere.

All stair details shown on drawings are indicative. Prior to fabrication the fitting contractor is to carry out a detailed measured survey on site and ensure compliance with BS 585 and the following: The sum of twice the rise plus the going should not be more than 700mm or less than 550mm. Overall stadimensions to be divided equally into tread sizes.

Going -- 245mm minimum, 260mm maximum. Rise -- 220mm maximum, 155mm minimum. itch -- 42 degrees maximum. leadroom -- minimum 2000mm above pitch line. joing -- 223mm minimum, 300mm maximum. tise -- 200mm maximum, 165mm minimum.

Balustrading to be fitted on open sides of stairs and landings. Handrails to be fitted, with at least 25mm clearance from wall, on one side of enclosed stairs and to outside edge of tapered tread stairs. Handrails/balustrading to be fitted at 900-1000mm above floor level/pitch line. For stairs with tapered treads the minimum going of any part of the tread shall not be less than 50mm.

Open riser stair treads should overlap at least 16mm There should be no opening in any part of the stair which would allow the passage of a 100mm diameter

Note.
Structural layout is shown indicatively Structural layout is shown indicatively and will be subject to full and final structural design by structural engineer. Refer to structural engineers details for confirmation of design

New 50 x 125mm C24 main roof rafters at max. 400mm c/c's notched over external wall pole / wall plates, top of internal load bearing first floor walls and supported on new ridge steel beam

Provide mechanical ventilation to new shower / wc at rate 15 litres / second ducted to external air through new external wall

New 50 x 150mm C24 catslide pitched roof rafters at max. 400mm c/c/c s notched over external dormer wall head plate / supported on new ridge steel beam

1400mm wide x 1200mm deep window within new dormer studwork front wall. Double timber lintel over by engineer

SHOWER / WC

New dormer external wall construction (including dormer cheeks) to be 150mm sw studwork finished externally fibre cement Hardi-Plank' timber effect weatherboarding fixed over battens in accordance with manufacturers instructions. Battens to be fixed over breathable membrance on 18mm marine plywood (fixed directly to studwork) and vapour check. Infill between studs with 100mm EcoTherm Eco-Versal insulation. Soffit studs internally with 12.5mm plaster board over VCL with skim plaster finish. New external dormer wall construction is to achieve min. 0.28 U-value

BEDROOM

Construct pitched roof aspect using joists, rafters, purlins and the like, as shown on drawings and to BS 8103. Birds-mouth and spike rafters to wall plates. Provide tilting fillets, fascias, soffits, verges and the like and cover roof with Kingspan Nilvent brethable roof membrane fixed below 38mm sw counter battens (below tile battens).

Nail tanalized roofing battens over counter battens, with 3.35 x 65mm galvanized smooth round nails to support roof tiles. Size and spacing of battens and fixing of tiles to be in strict accordance with tile manufacturer's specification.

Entire roof over first floor to be insulated between and below the rafters full width from eaves to ridge. The following specification is based on min. 125mm deep rafters: Insulate roof using 125mm thick Kingspan Kooltherm K7 insulation placed between rafters. Soffit rafters with 37.5mm Kingspan Kooltherm K18 insulated plasterboard and apply skim plaster finish. Sloping ceilings to achieve min. 0.18 U-value. Sloping ceiling roof construction to be installed in accordance with insulation manufacturers instructions. Provide 12.5mm plasterboard ceiling and skim finish.

To single storey pitched roof, insulate roof between ceiling joists with total thickness 270mm Knauf Earthwool Loft Roll 44 insulation quilt laid between ceiling joists / cross laid over to achieve required thickness. Ceiling to achieve min. 0.16 U-value

Provide structural gable restraint refer to specification

VALLEY FLASHING

Provide minimum 19mm thick marine ply valley boards and Code 5 lead (minimum 450mm wide). Lead to be lapped over tilting fillets and laid in maximum 1.5m lengths with 150mm laps.

Refer to roof tile manufacturers specification as details vary in relation to pitch, roof construction, tile selection and area of roof served.

Tiles to be carefully cut and bedded, as required, on undercloak slips to form a minimum 125mm clear valley channel. Maintain minimum 25mm between tilting fillet and undercloak.

Provide Code 4 lead saddle at ridge/valley intersection and apply patination oil coat.

Install pre-fabricated insulated cavity closers & cavity trays to openings within new external wa

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E/S

UTILITY

KITCHEN

BATH ROOM

or 60 litr

Maintain cross flow ventilation through internal footings

215mm brick footing founda

215mm brick footing found

SECTION A-A 1:50

floor screed (FR5000 floor //A ratio = 0.57). A membrane DPM laid on & block floor er (design details for for approval).

New foundations to be 450mm wide.
Depth/design of new foundations will be subject to existing soil conditions & proximity of any trees within 30m of extension. Foundations to be in strict accordance with the Building Inspectors instructions on site

Provide truncated air bricks and periscope vents to maintain cross flow ventilation to underfloor void

External walls below DPC to be cavity brickwork

DPC to be min. 150mm above the finished ground level

Provide furfix profiles where new & existing walls abutt

1500mm wide x 1350mm deep window. Lintel by structural engineer

Provide new UPVC deepflow (min. 125mm dia) gutters to pitched roof eaves discharging to new RWP

600mm wide x 1500mm deep window. Lintel by structural-engineer

EAD FLASHINGS (apron-pitched roof)rovide Code 4 lead apron flashings with minimum 150mm pstand and 150mm lap onto tiles. Apply patination oil coat) lead.

External dormer walls to consist of 150 x 50mm sw vertical studs at 450mm centres, and noggins as appropriate, on 150 x 50mm SW sole plate up to 150 x 50mm sw head plate. Sole plate to be fixed to floor joists and restrained using galvanised metal straps.

Provide double studs where double joists are to be supported. Provide timber lintels over openings as shown and support on additional "cripple studs."

Walls to be finished externally with fibre cement 'Hardi-Plank' timber effect weatherboarding fixed over battens in accordance with manufacturers requirements/instructions. Battens to be fixed on breathable felt on 18mm marine plywood (fixed stability).

Infill between studs with total thickness 100mm EcoTherm Eco-Versal insulation placed between the studs and line studs internally with plasterboard with skim finish, on 1000 gauge vapour barrier. Overall dormer wall construction to achieve 0.28 U-value.

Dormer cheek facing boundary is to be lined internally and externally with 9mm Sulaux board in order to provide 30 minute fire resistance.

NEW / ALTERED ELECTRICAL WORKS
All new and extended electrical work (including lighting) is to be designed, installed, inspected and tested in accordance with BS 7671 (I.E.T. Wiring Regulations 17th Edition) and Approved Document P and M. The works are to be undertaken by an installer registered under a suitable electrical self-certification scheme, or alternatively by a suitable qualified person, with a certificate of compliance produced by that person to Building Control on completion of the works. Lighting (internal and external) is to include a minimum proportion of energy efficient fittings in accordance with Approved Document L1B.
A commissioning certificate, showing compliance, should be issued to Building Control on completion of works.

perating and maintenance instructions, demonstrating perating and maintenance instructions, demonstrating ontrols/adjustments and service/maintenance shedules, to be provided to the building occupier as art of the installation.

EATINGxisting gas boiler serving wet system is to be hecked for capacity to serve new extension radiators

All work carried out to boiler / heating system is to be done by a GAS SAFE registered engineer / installer who shall provide signed test certificate to Building Control.

All new radiators are to be fitted with Thermostatic Radiator Valves (TRV's).

Provide Vent-Axia or similar mechanical extractor fans ducted independently to external air to serve Kitchen areas (minimum 60 litres/second or 30 l/s with cooker hood), Utility rooms (minimum 30 l/s)and Bathrooms (minimum 15 l/s).

Sanitary accommodation separate from bathroom and without opening windows of 1/20th of the floor area, to be provided with minimum 6 l/s.

Rooms without windows to have minimum 15 minute fan overrun operated by the light switch or sensor.

100mm dia halfround UPVC dormer roof gutter connected to dormer RWP

New 50 x 150mm C24 catslide pritched roof rafters at max. 400mm sitched roof rafters at max. 400mm sitched over external dormer wall head plate / supported on new idge steel beam

New 50 x 150mm C24 ce joists bolted to rafters

Unventilated roof - root covered with breahable membrane

PLUMBING
All PVC-u fittings to BS EN 1565. Provide rodding eyes to all changes of direction in new pipe work. All appliances to be fitted with 75mm deep seal traps and non ferrous fixings.

WC systems to be fitted with 100mm diameter outlet, cold water supply and cistern warning overflows. Wash hand basins to be fitted with hot & cold water supply, 75mm anti-syphon deep seal traps. Baths & showers to be fitted with hot & cold water supply and 50mm anti-syphon deep seal traps. Sanitary appliances to discharge via PVC-u waste ipes to bottle gully (kitchen sink) and to new SVP, as shown on drawings. Connections o discharge pipe (SVP) must be offset to avoid

Provide new UPVC deepflow (min. 125mm dia) gutters to pitched roof eaves discharging to new RWP

Provide code 4 lead apron flashing where pitched roof abutts new dormer wall with min. 150mm lap over tiles / 150mm upstand on to dormer wall plywood (behind weather boarding)

811

BEDROOM

STUDY

00mm wide x 1200mm deep ndow within new dormer udwork front wall. Double nber lintel over by engineer

Fire escape window - refer to fire escape window specification

2400

100mm thick load bearing studwork dwarf wall fixed on top of new first floor joists to support new rafters over

50 x 100mm sw pole plates fixed across top of new first joists for rafters to notch over

Existing lintel above windov to be checked to confirm capacity for new first floor loadings

SMOKE DETECTORS

Provide mains operated smoke detectors, to BS 5446 part 1, connected to separately fused circuit.

Detectors to be situated to ground floor hall, and first floor landing areas no more than 3.0m from bedroom doors. LIGHTING
75% of internal lights fittings must only accept compact fluorescent lamps (CFL), or similar energy efficient fittings of greater than 40 lumens per circuit-watt.

All external lighting to be fitted with photo-cell and movement sensors and/or energy efficient fittings of greater than 40 lumens per circuit-watt.

LOUNGE

BEDROOM

SECTION C-C

1:50

New 50 x 150mm C24 rafters at max. 400mm c/c's notched over external wall pole / wall plates and support on ridge board **BEDROOM** SECTION B-B 1:50 Unventilated roof - roof covered with breahable membrane 50 x 100mm sw pole plates fixed across top of new ceiling joists for rafters to notch over Unventilated attic void Line of existing foundation - new foundations to abutt the existing Top of new floor screed to line throwith the exsiting Existing external load bearing wall ¥ In top of rafters, lay Kingspan Nilvent breathable roof membrane and fix 38mm battens over (to create lair gap above breathable membrane). Over battens, fix tile battens / roof Over battens fix tile battens / roof In accordance New 50 x 170mm C24 ceiling joists at max. 400mm c/c's supported on existing external walls on wall plates Provide total thickness 270mm Knauf Earthwool Loft Roll 44 quilt insulation in between and over new ceiling joists to achieve min. 0.16 U-value New external wall construction to be 300mm cavity blockwork comprising 100mm dense blockwork outer skin - suitable for external render application, 100mm fully filled cavity with Knauf Earthwool Dritherm Cavity Slab 32 Ultimate insulation to achieve min. 0.28 U-value. Inner skin to be 100mm 3.5N blockwork finished internally with 12.5mm plaster and skim Proposed cavity walls (100mm cavity) to have vertical twist type wall ties placed at max. 750mm horizontal centres. Ensure adequate embedment into each wall skin