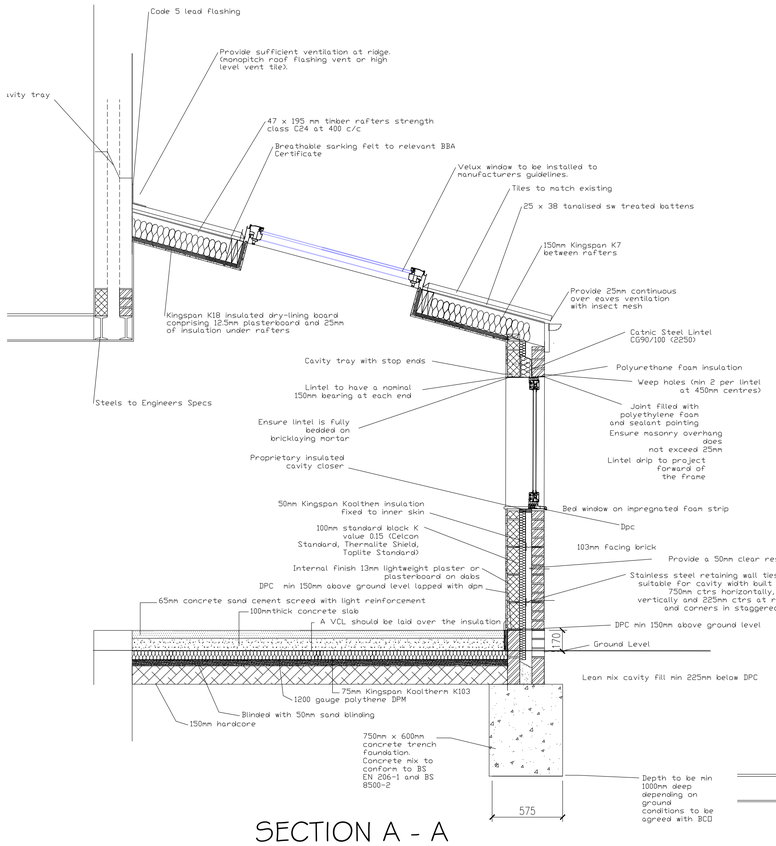
PITCHED ROOF
Pitch 22-45° imposed load max 0.75 kN/m² - dead load max 0.75 kN/m². To achieve min U-value required of 0.18 W/m²K
Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement R5 Structural Design.
Calculations to be based on BS EN 1995-1-1. Roofing tiles to
match existing on 25 x 38 tanalised sw treated battens on breathable sarking felt to relevant BBA Certificate. Supported
on 47 x 195 mm timber rafters strength class C24 at 400 c/c - span to engineers details. Rafters supported
on 100mm x 50mm sw treated wall plates. Allow min 20mm air space to allow fro drape of breathable felt insulation to be 150mm
Kingspan K7 between rafters and Kingspan K18 insulated dry-lining board comprising 12.5mm plasterboard and 25mm of insulation
under rafters. 5mm of skim coat finishing plaster to underside of all ceilings. Restraint strapping - Ceiling joists tied to
rafters (if raised collar roof consult structural engineer). 100mm x 50mm wall plate strapped down to walls. Ceiling joists and
rafters to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggins. All straps to be
1000 x 30 x 5mm galvanized straps or other approved to BSEN 845-1 at 2m centres. Ensure 25mm air gap at eaves and provide 5mm
ventilation at ridge via then use of monopitch roof flashing vent or high level vent tile.
THIS IS A GENERAL GUIDE BASED ON NORMAL LOADING CONDITIONS FOUND IN DOMESTIC CONSTRUCTION. IT IS YOUR RESPONSIBILITY TO ASSESS
YOUR DESIGN TO ASCERTAIN WHETHER ENGINEER'S DETAILS/CALCULATIONS ARE REQUIRED. PLEASE REFER TO THE TRADA DOCUMENT - 'SPAN
TABLES FOR SOLID TIMBER MEMBERS IN FLOORS, CEILINGS AND ROOFS FOR DWELLINGS' OR ASK YOUR BUILDING CONTROL
OFFICER FOR ADVICE.

PLUMING
Any new heating to be linked into the existing system. All new radiators to be fitted with TRV's. All work to be installed and
commissioned by a qualified tradesman in accordance with the Domestic Heating Guide 2010

ELECTRICAL
All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and
tested by a competent person registered under a competent person self certification scheme such as BRE certification Ltd, BSI,
NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 Electrical Installation Certificate is to be issued for the work
by a person competent to do so. A copy of a certificate will be given to Building Control on completion.



SECTION A - A

INTERNAL STUD PARTITIONS
75mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 75mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm. Provide min 10kg/m³ density acoustic soundproof quilt tightly packed (eg. 75mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Partitions built off doubled up joists where partitions run parallel or provide noggins where at right angles. Walls faced throughout with 12.5mm plaster board with skim plaster finish. Taped and jointed complete with beads and stops.

PARTIAL FILL CAVITY WALL
To achieve minimum U Value of 0.28W/m²K
Provide 103mm facing brick to match existing construction. 50mm clear residual cavity, 50mm Kingspan Kooltherm K108 insulation fixed to 100mm standard block K value 0.15 (Celcon standard, Thermalite shield, Toplite standard) Internal Finish to be 12.5mm plasterboard on dabs with a plaster skim. Walls to be built with 1:1:6 cement mortar.

SOLID FLOOR INSULATION UNDER SLAB
To meet min U value required of 0.22 W/m²K
Solid ground floor to consist of 150mm consolidated well-rammed hardcore. Blinded with 50mm sand blinding. Provide a 1200 gauge polythene DPM, DPM to be lapped in with DPC in walls. Floor to be insulated over DPM with 75mm Kingspan Kooltherm K103.
25mm insulation to continue around floor perimeters to avoid thermal bridging. A VCL should be laid over the insulation boards and turned up 100mm at room perimeters behind the skirting, all joints to be lapped 150mm and sealed, provide 100mm S12 or Gen2 ground bearing slab concrete mix to conform to BS 8500-2 over VCL. Finish with 65mm sand/cement finishing screed with light mesh reinforcement. Where drain runs pass under new floor, provide A142 mesh 1.0m wide within bottom of slab min 50mm concrete cover over length of drain. Where existing suspended timber floor air bricks are covered by new extension, ensure cross-ventilation is maintained by connecting to 100mm dia. UPVC pipes to terminate at new 65mm x 215mm air bricks built into new cavity wall with 100mm concrete cover laid under the extension. Ducts to be sleeved through cavity with cavity tray over.

DRAINAGE
Where any drain pass under floor slabs encase in min 150mm pea gravel and lintels installed where they pass through walls with compressible material around hole. Stormdrains: 63mm downpipes to gullies with copper wire balloons at gutter junctions. Gutters 100mm true half round laid to fall. Fron gullies 100mn supersleve drains to drain away into existing drainage run. new inspection chamber see plan.

WALLS BELOW GROUND
All new walls to have Class A blockwork below ground level or alternatively semi engineering brickwork in 1:4 masonry cement or equal approved specification. Cavities below ground level to be filled with lean mix concrete min 225mm below damp proof course. Or provide lean mix backfill at base of cavity wall (150mm below damp course) laid to fall to weepholes.

TRENCH FOUNDATION
Provide 750mm x 600mm trench fill foundations, concrete mix to conform to BS EN 206-1 and BS 8500-2. All foundations to be a minimum of 1000mm below ground level, exact depth to be agreed on site with Building Control Officer to suit site conditions. All constructed in accordance with 2004 Building Regulations A1/2 and BS 8004:1986 Code of Practice for Foundations. Ensure foundations are constructed below invert level of any adjacent drains. Base of foundations supporting internal walls to be min 600mm below ground level. Sulphate resistant cement to be used if required. Please note that should any adverse soil conditions or difference in soil type be found or any major tree roots in excavations, the Building Control Officer is to be contacted and the advice of a structural engineer should be sought.

SITE PREPARATION
Ground to be prepared for new works by removing all unsuitable material, vegetable matter and tree or shrub roots to a suitable depth to prevent future growth. Seal up, cap off, disconnect and remove existing redundant services as necessary. Reasonable precautions must also be taken to avoid danger to health and safety caused by contaminants and ground gases e.g. landfill gases, radon, vapours etc. on or in the ground covered, or to be covered by the building.

PARTY WALL ACT
The owner, should they need to do so under the requirements of the Party Wall Act 1996, has a duty to serve a Party Structure Notice on any adjoining owner if building work on, to or near an existing Party Wall involves any of the following
- Support of beam
- Insertion of DPC through wall
- Raising a wall or cutting off projections
- Demolition and rebuilding
- Underpinning
- Insertion of lead flashings
- Excavations within 3 metres of an existing structure where the new foundations will go deeper than adjoining foundations, or within 6 metres of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.

A Party Wall Agreement is to be in place prior to start of works on site.

THERMAL BRIDGING
Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (ie. around windows and door openings). Reasonable provision shall also be made to ensure the extension is constructed to minnise unwanted air leakage through the new building fabric.

MATERIALS AND WORKMANSHIP
All works are to be carried out in a workmanlike manner. All materials and workmanship must comply with Regulation 7 of the Building Regulations, all relevant British Standards, European Standards, Agreement Certificates, Product Certification of Schemes (Kite Marks) etc. Products conforming to a European technical standard or harmonised European product should have a CE marking.

NOTE
The contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts.
The contractor is to comply in all aspects with current building legislation - British standards, specifications, building regulations etc. Whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation. This drawing is not intended to show details of foundations, ground conditions or ground contaminants. The contractor will investigate the building area and a suitable method of foundation for the whole build should be provided allowing for existing ground conditions. Any suspect ground conditions should be further investigated by a suitable expert.

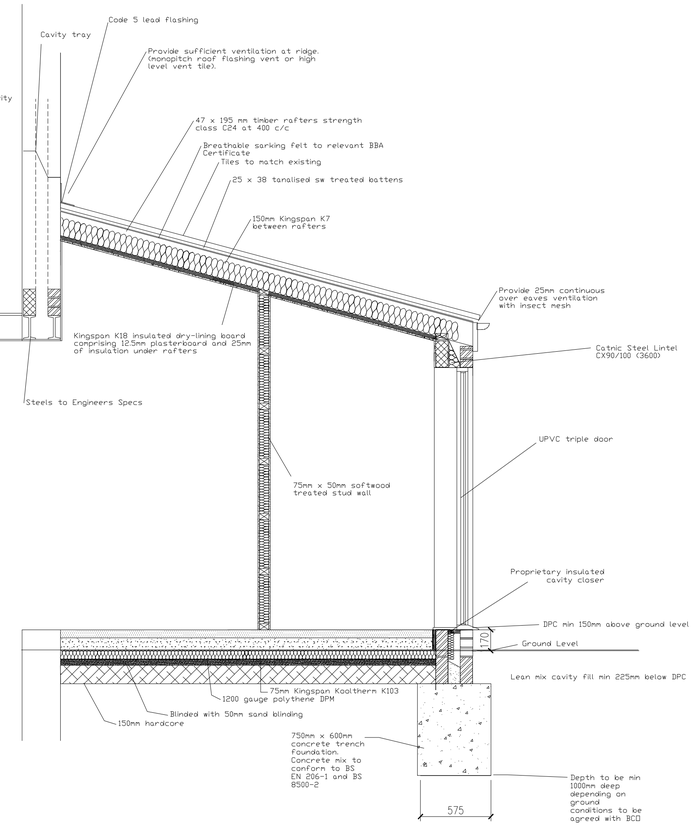
LEAD WORK AND FLASHING
All lead flashings, any valleys or soakers to be code 5 lead and laid according to Lead Development Association. Flashings to be provided to all jambs and below window openings with welded upstands. Joints to be lapped min 150mm and lead to be dressed 200mn under tiles. etc All work to be done in accordance with the Lead Development Association recconendations.

BEAMS
Supply and install all new structural elements such as new beams, roof structure, floor structure, beams and pad stones in accordance with the Structural Engineers calculations and details. New steel beams to be encased in 12.5mm Gypoc Fireline board with staggered joints, Gyproc Fire Case or painted in Nullifire S or similar intumescent paint to provide ½ hour fire resistance as agreed with
Building Control. All fire protection to be installed as detailed by specialist manufacturer.

WINDOWS
UPVC windows to be double glazed with 16mm argon gap and soft coat low-E Window Energy Rating to be Band C or better and to achieve U-value of 1.6 W/m²K. The door and window openings should be limited to 25% of the extension floor area plus the area of any existing openings covered by the extension. All glazing in critical locations to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations, ie. within 1500mm above floor level in doors and side panels within 300mn of door opening and within 800mn above floor level in windows. Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms. Windows to have an unobstructed openable area of 450mm high x 450mn wide, minimum 0.33n sq. The bottom of the openable area should be not more than 1100mn above the floor. The window should enable the person to reach a place free from danger from fire.

LINTELS
For uniformly distributed loads and standard 2 storey domestic loadings only Lintel widths are to be equal to wall thickness. All lintels over 750mn sized internal door openings to be 65mn deep pre-stressed concrete plank lintels. 150mn deep lintels are to be used for 900mn sized internal door openings. Lintels to have a mininum bearing of 150mn on each end. Any existing lintels carrying additional loads are to be exposed for inspection at commencement of work on site. All pre-stressed concrete lintels to be designed and manufactured in accordance with BS 8110, with a concrete strength of 50 or 40 N/mm² and incorporating steel stronds to BS 5896 to support loadings assessed to BS 5977 Part 1. For other structural openings provide proprietary insulated steel lintels (catnic or similar) suitable for spans and loadings in compliance with Approved Document A and lintel manufactures standard tables. Stop ends, DPC trays and weep holes to be provided above all externally located lintels.

VENTILATION
Window ventilation openings min 1/20 floor area of habitable rooms. All windows to have trickle vents. Provide mechanical ventilation kitchen 60 L/S, Utility 30 L/S.



SECTION B - B