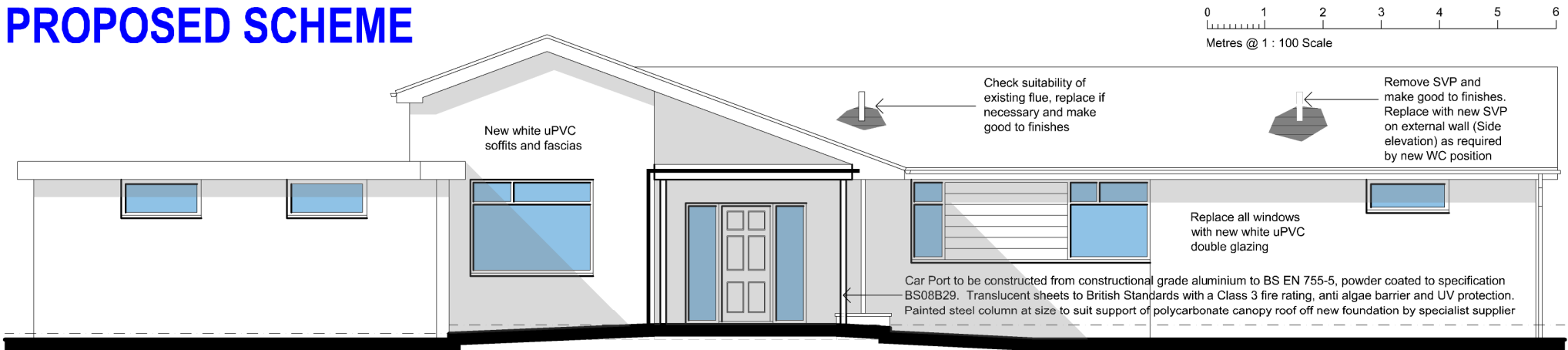
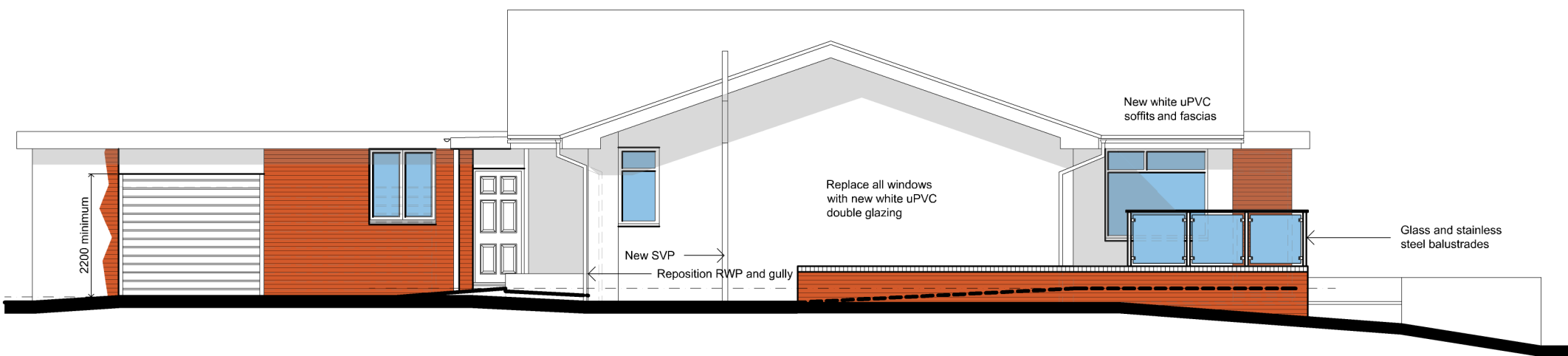


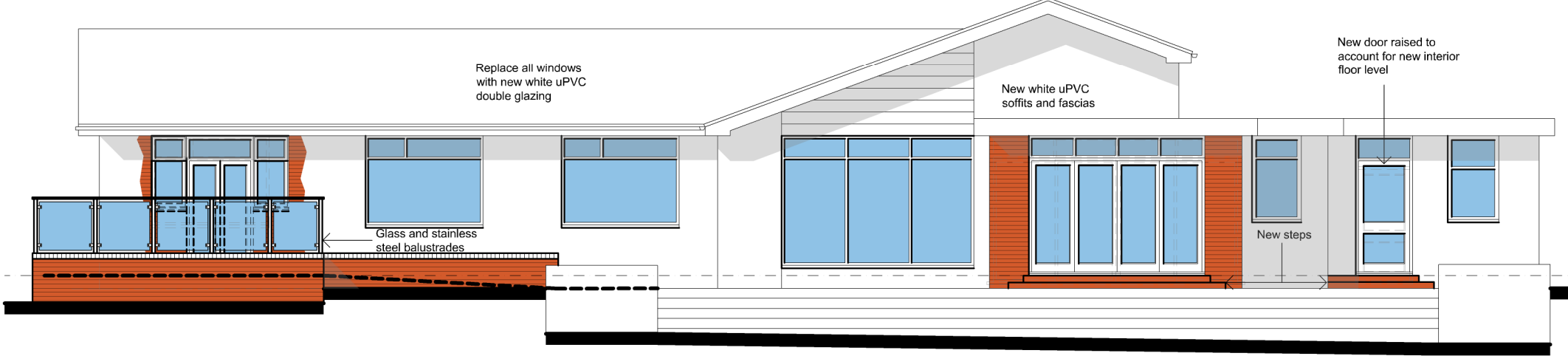
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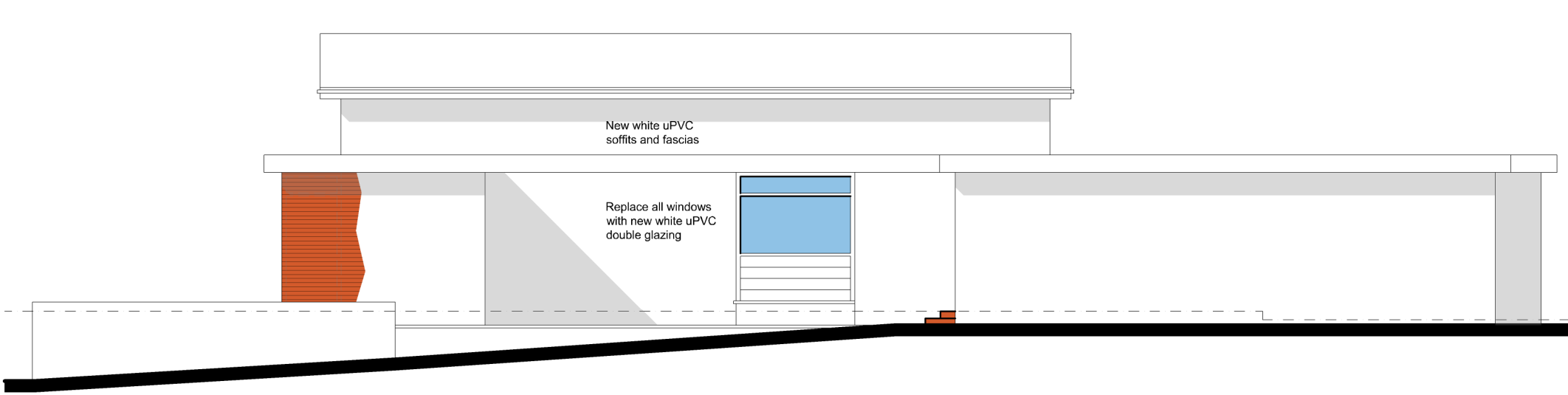
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



SIDE ELEVATION

PRELIMINARIES

The following specification must be read in conjunction with all relevant project drawings, schedules etc. and is applicable whether specifically referred to or not. It is the responsibility of the contractor to ensure that all their work is in compliance with the appropriate requirements of the relevant Building Regulations and other allied legislation.

Demolitions, existing structures to be supported & protected where necessary & new openings formed to structural engineers design & structural calculations where necessary, any existing sub structures (e.g. foundations and slab etc), taken up & removed off site to a licensed tipping site. Where the demolition of a structure or part of a structure exceeds 50m², a notice of the proposed demolition should be sent to the local authorities Building Control department before works commence.

Provide all necessary health & safety requirements including; site security, scaffolding, access ladders, material hoists, temporary protection and working platforms etc which are to be erected, maintained, certificated, dismantled and removed by suitably qualified and insured specialists.

All plumbing, drainage, heating, electrical services etc including re-siting of heating appliances/boilers/fires etc. to be altered/modified/adjusted as necessary by suitably qualified & experience specialists or registered competent persons, tested & appropriate certification issued where required in this specification.

Any asbestos/contaminated soil/laid paint is to be inspected & removed by a specialist. Asbestos is to be removed and disposed off site by a specialist licensed contractor as required under the Control of Asbestos Regulations 2006.

Ground to be prepared for new works as described including location and alteration/ modifications to all existing services as necessary, including sealing up, capping off, disconnecting, removing redundant services as necessary. Prior to and during works, the person carrying out the works is to liaise with and meet the requirements of the relevant Service Authorities, including the location and protection of all services as necessary.

External paths, drives, patios, walls, fences & gardens etc, to be taken up and relayed / extended as necessary to accommodate the new works as described.

All structural timber is to be grade C24, stress graded to BS 4978 and sawn to BS 4471. All timber is to be protected on site to minimize moisture content which must not exceed 22%.

Builder to allow for opening up existing structure where required for inspection purposes in areas/locations as requested and making good all disturbed structures and finishes to match existing.

PART A: STRUCTURE

SUBSTRUCTURE

FOUNDATIONS (INCLUDING RETAINING WALLS & BASEMENTS)
Foundations to be in accordance with Approved Document A1/2, and constructed at a minimum depth of 750-1000mm, below the influence of drains, and/or surrounding trees, on level firm natural undisturbed ground of adequate ground bearing capacity to the approval of the Building Control surveyor.

STRIP FOUNDATIONS
Strip foundations to have a minimum width of 600mm and thickness of 200mm. The concrete mix should be S72 or GEN1.

SUB STRUCTURE

Foundations are to be provided centrally positioned under all exterior, party and interior load bearing walls, steps in foundation level should not exceed its thickness and should overlap by twice its thickness. Two layers of B503 mesh reinforcement or stronger are to be provided, one top and bottom with 75mm cover to the foundations in mining areas. Walls below DPC level up to 1m deep are to be constructed with two skins of 70mm² 100mm or 140mm concrete blocks if over 1m deep. 13 cement mortar in-filled with concrete to a maximum of 225mm below DPC level. Block and cavity width and wall tie spacing, etc, to be same as the wall above, but with a row of wall ties to support the cavity wall insulation below DPC level. All materials to be frost resistant.

GROUND BEARING SOLID CONCRETE FLOORS

SUITABLE FOR BASIC RADON PROTECTION ONLY (U-VALUE 0.22 W/m²K)
Topsoil and vegetable matter to be cleared from site and floor to be in filled between walls with minimum 150mm maximum 600mm clean sand blanded compacted hardcore.

1200g (300 micrometer) continuous polythene DPM and radon gas proof barrier is to be laid over sand and bedded hardcore, tapered & sealed at all joints & linked to DPC's in walls. To provide basic protection from radon gas, the damp-proof course within the cavity wall should be in the form of a cavity tray & sealed to DPM to prevent radon from entering the building through the cavity. Sealing of joints in the barrier and sealing around service penetrations are also required with radon gas proof tape in compliance with Part C.

Floor grade insulation to be laid over DPM, minimum thickness and type in accordance with details below including 25mm thick insulated up-stands between slab and external walls.

100mm minimum thick ST2, or GEN1 concrete floor slab with a trowel smooth surface ready for finishes to be laid over with detail (note: 500g polythene separating layer is to be installed between the concrete slab and insulation if using a foil faced polyurethane/ PIR insulation board) Insulation to be omitted and concrete thickness increased in areas where non-load bearing partitions are built off the floor slab. Where area of fill exceeds 600mm the floor is to be suspended as detailed in this guidance.

GROUND BEARING SLAB & SUSPENDED BEAM & BLOCK INSULATION REQUIREMENTS
U-VALUE NO WORSE THAN 0.22 W/m²K

75mm Kingspan Kooltherm K3 or; 75mm Celotex GA4000 or; 100mm Knauf Polyfoam Standard Floorboard or; 100mm Jablite Jutifloor Premium or; 100mm Styrofoam Floorcrete 300A or; 135mm Rockwool Floorcrete

Radon gas protection to be provided in garages integral with the dwelling in accordance with the above ground bearing/suspended floor details.

SUPERSTRUCTURE

EXTERNAL WALLS (U-VALUE NOT WORSE THAN 0.28 W/m²K)
External wall constructed in either 100mm thick reconstituted stone facings, 100mm thick 50mm² (min) facing brickwork or 2 coat render on 100mm thick dense concrete block skin (in materials and finishes to match existing where necessary and dependent upon exposure) with a 100mm (min) thick 2.8Nm² (min) insulation/dense block inner leaf with either a 15mm lightweight plaster finish or 12.5mm plasterboard on dabs skimmed dry lining. Where required, 100-150mm thick matching external stone facings to be tied to 100mm thick dense concrete block backing course (or British Board of Agreement (BBA) approved proprietary cavity spacer system and omit concrete block), connected together with wall ties as detailed below and foundation widths increased by 150mm.

Walls to be built with 1:5 cement mortar and tied with B50A approved stainless steel wall ties suitable for cavity width at maximum spacing of 750mm horizontal (increased to 800mm if retaining partial fill insulation using proprietary retaining rings as manufacturer's details), 450mm vertical and 225mm at reveals, verges and closings for cavities up to 100mm wide. Wall ties and spacing for cavities over 100mm wide to be in accordance with wall tie manufacturer's details.

Cavity width and insulation details to be constructed as details below to achieve a U-value not worse than 0.28 W/m²K. Wall insulation to be continuous with roof insulation level and taken below roof insulation levels as manufacturer's details.

Sizes of structural elements, thickness of walls, height and size of buildings to be in accordance with ADA 1/2. Openings, buttressing and sizes of openings and recesses to be in accordance with diagrams 13, 14 and 15 of ADA1/2. Openings exceeding 2.1m in height or openings less than 665mm measured horizontally to an external corner wall should be in accordance with details calculated from a suitably qualified person.

PARTIAL CAVITY FILL INSULATION REQUIREMENTS FOR EXTERNAL CAVITY WALLS
100mm dense brick or rendered block external skin & 15mm internal lightweight plaster/plasterboard on dabs fixed. U-value no worse than 0.28 W/m²K

Construction to comprise one of the following specifications:

50mm clear cavity / 40mm Kingspan Kooltherm K3 or other approved with K value of 0.022 / 100mm insulation block with K value 0.15 or lower (Celcon Standard)

50mm clear cavity / 40mm Celotex CG4000 or other approved with K value of 0.022 / 100mm insulation block with K value 0.11 or lower (Celcon Solar or Thermoalite Turbo)

50mm clear cavity / 50mm Kingspan Kooltherm K3 or Other approved with K value of 0.020 / 100mm dense concrete block (K value 1.13)

50mm clear cavity / 60mm Celotex CG4000 or other approved with K value of 0.022 / 100mm dense concrete block (K value 1.13)

WALLS BETWEEN HEATED AND UNHEATED AREAS (U-VALUE 0.28 W/m²K)
Walls between heated and unheated areas such as garages etc, to be constructed and insulated as external walls or constructed with 2.8Nm² 100/215mm solid dense concrete blocks with light weight plaster/plasterboard on dabs finish to one side, 50 x 75mm deep timber studs or proprietary metal stud partition wall system to the opposite side, with 70mm Kingspan Kooltherm K12 or other approved with a K value of 0.020-0.022 insulation fixed between vertical studs finished with 12.5mm vapour checked plasterboard (or 500g polythene vapour check) and 3mm skim coat plaster.

WALL ABUTMENTS
Vertical junctions of new and old walls to be secured with proprietary profiled stainless steel metal crocodile type system with a continuous cavity fixed with DPC and pointed with flexible mastic as manufacturer's details.

INTELS & WEEP HOLES
Proprietary manufactured intels to current British Standards/Euro codes (including specialist intels supporting stone facings) are to be provided over all structural openings. The positions, types, sizes, and bearings etc of intels must be in compliance with the intel manufacturer's standard tables suitable for the proposed buildings and clear spans. Stop end and DPC trays to be provided above all externally located intels in compliance with intel manufacturer's details. Weep holes at 450mm centers with at least two per opening.

STRUCTURAL COLUMNS/BEAMS
Non proprietary beams/columns including pad stone to be fabricated and installed in compliance with details and structural calculations carried out by a suitably qualified and experienced person, which must be approved by Building Control before works commence on site. DPC trays to be provided above all externally located beams. Weep holes at 450mm centers with at least two per opening.

STRAPPING AND RESTRAINT
Walls to be restrained at intermediate floor, ceiling and gable walls by the provision of 30 x 5 x 1200mm lateral restraint straps or other approved in compliance with BS EN 845-1, at maximum 2m centers carried across at least 3 joists or rafters etc, with a minimum of 38mm wide x 3x depth Rogers.
CAVITY CLOSERS
Proprietary acoustic/insulated fire stop cavity closers, or similar, are to be provided to all cavity openings/closings, tops of walls and junctions with other properties.

COMPRESSIVE STRENGTH OF MASONRY UNITS
The compressive strength of bricks and blocks in a three storey construction is to be carried out in accordance with Diagrams 9 & 10 of ADA 1/2 and as follows:

(i) Outer leaf of cavity wall – Blocks & bricks to be 7Nm²m² from foundation level up to the underside of the structural roof.
(ii) Inner leaf of cavity wall – Blocks to be 7Nm²m² from foundation level up to the underside of the first floor level. Blocks above this level up to the underside of the structural roof can be 2.8Nm²m².
(iii) Internal walls – Blocks to be 7Nm²m² and 140mm thick up to the underside of the first floor level. Blocks above this level up to the underside of the structural roof to be 2.8Nm²m².

INTERNAL PARTITIONS

INTERNAL LOAD BEARING MASONRY PARTITIONS
Internal load bearing walls to be minimum 100mm thick 7Nm²m² dense concrete blocks (actual wall thickness must not be less than the wall it supports above), built off suitable foundations (as detailed above), with pre-cast concrete/proprietary steel intels over openings (in compliance with intel manufacturers span tables) and walls bonded/extended to external or party walls with proprietary ties each course and restrained by roof or ceiling joists/trusses.

INTERNAL LOAD BEARING TIMBER STUD PARTITIONS
Load bearing timber stud partitions and non-proprietary intels to be in compliance with details and calculations by a suitably qualified and experienced person, which must be approved by building control before works commence on site.

INTERNAL NON LOAD BEARING MASONRY PARTITIONS
Internal non-load bearing partitions to be constructed of 100mm 2.8Nm²m² dense concrete blocks built off a thickened floor slab and tied/block bonded to all internal and external walls at maximum 225mm centers with either a plaster or dry lined finish as the external walls.

INTERNAL NON LOAD BEARING TIMBER STUD PARTITIONS
Non-load bearing stud partitions are to be constructed of 100 x 50mm soft wood with head and sole plates and intermediate nogging fixed at 600mm with a minimum of 25 mm of 100kg/m³ proprietary sound insulation quilt suspended in the stud and finished with 15 mm plasterboard and skim both sides.

NOTCHES / HOLES / CUTS IN STRUCTURAL TIMBERS
Notches / holes / cuts in structural timbers should be carried out in accordance with BS 5268-22002 and should not be deeper than 0.125 times the depth of the joists and should be not closer to the support than 0.07 times the span and not further away than 0.25 times the span. Holes should not be deeper than 0.25 times the depth of the joist and should be drilled at the post centre line. They should be not less than 3 diameters (centre to centre) apart and should be located between 0.25 and 0.4 times the span from the support. Notches or holes exceeding the above requirements or cut into other structural members should be checked by a structural engineer.

SVP PIPE BOXING
SVP pipe boxing to consist of soft wood framing, 2 layers of 15mm plasterboard and skim and void filled with mineral wool quilt for sound insulation and fire/smoke stopping. Boxing to be continuously carried up to roof space for soil and vent pipe and provided with air grills where an air admittance valve is used. Ensure all gaps & all voids are sealed to prevent any air leakage.

PITCHED ROOFS

Soffits, fascias and barge boards etc to match the existing or in UPVC to BS 4576, fixed in compliance with manufacturer's details.

Allow for all necessary alteration/modification of any existing adjoining roof as required to enable the proper completion of the works and in agreement with Building Control.

Allow for building in as work proceeds or insertion of proprietary stepped/cavity tray DPC to follow line of new roof 150mm above all roof/wall abutments as necessary using code 5 lead flashings.

The new roof into the existing, alter/modify/new existing roof coverings and form a weather tight structure.

Fix 12.5mm foil backed plasterboard (joints staggered) and 3mm skim coat of finishing plaster to the underside of all ceilings using galvanized plasterboard nails.

Roof pitch to (single storey) single skin buildings with walls 100mm thick should not exceed 40 degrees without structural engineer's details & calculations to confirm stability of the structure. Cut roofs over 40° are to be braced to BS 5268.

ROOF INSULATION & VENTILATION GAPS
Insulation to be fixed in accordance with manufacturer's details and must be continuous with the wall insulation but stopped back at eaves or at junctions with rafters to allow for a continuous 50mm air gap above the insulation to underside of the roofing felt where a non combustible roofing felt is used or 25mm air space to allow for sag in felt if using a breathable roofing membrane in accordance with the manufacturer's details.

INSULATION LAID HORIZONTALLY BETWEEN AND OVER CEILING JOISTS (VENTED COLD ROOF ACHIEVING A U-VALUE OF 0.16 W/m²K)
100mm Rockwool Roll (K value = 0.044) between joists and 200mm across joists.

ROOF VENTILATION TO PITCHED ROOFS WITH NON BREATHABLE ROOFING FELT

ROOF WITH HORIZONTAL CEILINGS & INSULATION AT WALL PLATE LEVEL
Roof insulation to be continuous with the wall insulation but stopped back at eaves or at junctions with rafters to allow a 50mm air gap. Cross ventilation to be provided by a proprietary eaves ventilation strips equivalent to a 10mm continuous air gap to opposing sides of roof at eaves level and fitted with an insect grill.

BREATHABLE ROOF MEMBRANES
Ventilation to the roof space may be omitted, only if a proprietary BBA or similar approved breathable roof membrane, with minimum 25mm thick treated vertical counter battens and proprietary eaves carrier system is used. Breathable roof membranes & proprietary roof vents must always be installed as manufacturer's details (note: some breathable membranes may also require additional roof ventilation).

FLAT ROOF CONSTRUCTION
Flat roof to be carried out as detailed on the drawings. Moisture content of timber should not exceed 20% and to be kiln dried & grade C24. Workmanship to comply to BS 8000-4. All fixings to be proprietary stainless steel or galvanized steel.

Waterproof covering to be either:
3 layers of high performance felt (hot bonded together with bitumen) to a current BBA Certificate in compliance with BS8217 or;
Single layer system with a current BBA or WIMAS Certificate or;
Glass reinforced plastic (GRP) system with a current BBA or other approved accreditation or;
Rolled lead sheet fixed in compliance with the Lead Development Associations publication 'Rolled Lead Sheet- The Complete Manual'. Website: www.leadsheet.co.uk or;
Mastic asphalt fixed in compliance with the Mastic Asphalt Councils technical guides & specifications

Waterproof covering to be laid in compliance with manufacturers details by flat roofing specialist onto separating layer over roof insulation layer in compliance with below to form a 'warm roof' (or alternatively insulation fixed between/under joists in compliance with Table below forming a 'cold roof' laid to, 22mm external quality plywood decking or similar approved laid to 1:60/80 minimum gradient using firing strips at spacing to match joists, fixed onto timber flat roof joists constructed of kiln dried structural grade timber with sizes and spacing suitable for the proposed clear span as annotated on the drawing or in compliance with TRADA Span Tables.

Flat roof covering (excluding lead) to have a surface finish of bitumen bedded stone chippings covering the whole surface to a depth of 12.5mm to achieve a class AA (or B (4) European class) fire rated designation for surface spread of flame.

Restrain flat roof to external walls by the provision of 30 x 5 x 1000mm lateral restraint straps at maximum 2000mm centers fixed to 100 x 50mm wall plates and internal wall faces.

Flat roof insulation to be in compliance with tables below. Flat roof insulation is to be continuous with the wall insulation but stopped back to allow a continuous 50mm air gap above the insulation in ventilated cold decks. Cross ventilation to be provided on opposing sides by a proprietary eaves ventilation strip equivalent to a 25mm continuous gap at eaves level with insect grill. Note: certain warm roof applications i.e. where the insulation is fixed above the structural deck do not require ventilation - only where permitted in accordance with manufacturers' details.

The design, workmanship & selection of materials should comply with Model Specification Sheet P.1 - Built-Up Roofing: Plywood Deck, published by The British Flat Roofing Council. Metallic roof films to be of non-corrodible material & resistant to sunlight & not fixed through the water proof covering. All timber to be treated using CCA vacuum/pressure or FVS double vacuum to BS 5268:5, including all cut ends of timber etc 300mm of any joint.

All flat roofing works to be carried out by a specialist flat roofing contractor and all materials etc to be fitted in compliance with manufacturer's details. Work should not be carried out during wet weather or when the deck has not fully dried out. A 500g vapour control barrier is required on the underside of the roof below the insulation level. Fix 12.5mm foil backed plasterboard (joints staggered) and 5mm skim coat of finishing plaster to the underside of all ceilings using galvanized plasterboard nails.

INSULATION FIXED BETWEEN / UNDER FLAT ROOF JOISTS (VENTED 'COLD ROOF' ACHIEVING A U-VALUE OF 0.16 W/m²K)
Product: K value = Thickness

Kingspan Thermapitch TP10 : 0.022 : 160mm friction fixed between joists or 125mm between joists & 25mm fixed under joists
Celotex XR4000 : 0.023 : 165mm friction fixed between joists
Jablite Premium Board : 0.030 : 220mm friction fixed between joists or 150mm between joists & 50mm fixed under joists

Note: The joist depth must be sufficient to maintain a 50mm air gap above the insulation and cross ventilation to be provided on opposing sides by a proprietary ventilation strip equivalent to a 25mm continuous gap at eaves level with insect grill for ventilation of the roof space.

INSULATION FIXED ABOVE FLAT ROOF JOISTS (NON VENTED 'WARM ROOF' ACHIEVING A U-VALUE OF 0.18 W/m²K)
Product: K value = Thickness

Kingspan Thermarap TR27 : 0.022 : 120mm fixed above deck in a single layer
Celotex Thermcheck Deck or Celotex T44000 : 0.022 : 125mm fixed above deck in a single layer

Knauf roof fiber slab or Jablite Jabdeck : 0.035 : 180mm fixed
VALLEYS AND LEAD WORK
Lead work, flashing, soakers, valleys and gutters, etc, to be formed from Code 5 lead sheet and fully supported on treated valley boards, etc, and to have a minimum 150mm lap joints, dressed 200mm under tiles, etc, and not to be fixed in lengths exceeding 1.5m and to be fixed in accordance with the roof cladding manufacturers and the Lead Development Association recommendations.

LOFTS HATCHES, DOORS & LIGHT WELLS TO ROOF SPACES
All hatches, doors and light wells in the roof space to be insulated to the same standard as the roof, draft striped and positively fixed.

PART B: FIRE SAFETY & MEANS OF ESCAPE

SMOKE / HEAT ALARMS
All floors to be provided with mains operated interconnected fire detection and fire alarm system to BS 5446 & installed in accordance with the relevant recommendations of BS 5839 – 6: 2004 to at least a Grade D Category LD3 standard. Self contained mains operated smoke alarms (heat alarms installed in kitchens / open to stairways) with battery back up to be fixed at ceiling level in all circulation areas at each storey level, within 7.5m of all doors to habitable rooms.

MEANS OF ESCAPE WINDOWS
Means of escape windows to be fitted with proprietary hinges to open to the minimum required clear width of 450mm. Escape windows must have minimum clear opening casement dimensions of 0.33m² and 450mm (typically 450mm wide x 750mm high), located within 800-1100mm above floor level to all bedrooms and habitable rooms at 1st floor level and inner habitable rooms on the ground floor. Windows above the ground floor storey and within 800mm of floor level are to be provided with containment/ guarding/ proprietary catches which should be removable (child proof) in the event of a fire. Where escape windows cannot be achieved, direct access to a protected stairs (or protected route to inner rooms) is acceptable in compliance with ADB1 par 2.6 (a) or (b).

FIRE DOORS & FRAMES

Walls between garage and the house to be built up off foundations in masonry to give 30 minutes fire resistance and taken up to the ceiling/roof level and fire stopped with mineral wool. Door(s) between the house and garage to be FD30 to BS476-22:1987 fitted with proprietary mechanical self-closers, intumescent strips and smoke seals.

Note: 13mm plasterboard & skim finish applied to 100 x 50mm timber stud partitions/ ceiling/ floor joists as detailed in this specification will achieve 30 minutes fire resistance, two layers of 13mm plasterboard (joints staggered) will achieve 60 minutes fire resistance. Masonry walls detailed in this specification will achieve 60 minutes fire resistance.

PART C: SITE PREPARATION AND RESISTANCE TO CONTAMINANTS & MOISTURE

RESISTANCE TO MOISTURE

HORIZONTAL DAMP PROOF COURSES & TRAYS (DPC'S)

Horizontal DPC and DPC trays with weep holes at 1.0m ctrs to be provided 150mm above ground level continuous with and sealed to the floor DPM & radon / DPC tray to prevent the ingress of moisture into the building.

VERTICAL DAMP PROOF COURSES & TRAYS (ETC'S)

Stepped and horizontal DPC/cavity trays are to be provided over all openings, roof abutments/ projections and over existing walls with different construction or materials. Install vertical DPC or proprietary insulated cavity closers at all closings, returns, abutments to cavity work and openings etc to prevent the ingress of moisture into the building.

TANKING SYSTEMS TO WALLS

Tanking to be properly connected to and made continuous with walls. Perforation of the tanking system by service entry pipes etc should be avoided.

Suitable tanking systems including asphalt, self adhesive bitumen membranes, drained cavity membranes and liquid applied membranes to have BBA or other approved accreditation and assessed by a tanking specialist as suitable for the proposed situation.

Tanking systems to be installed/installed by a tanking specialist in compliance with tanking manufacturer's details to resist the passage of moisture into the building and where required prevent radon gas entering the building. All details must be approved by Building Control before works commence on site.

PART E: RESISTANCE TO THE PASSAGE OF SOUND

NEW INTERNAL WALLS & FLOORS IN NEW EXTENSION

Sound insulation details between internal walls & floors separating bedrooms or a room containing a WC and other rooms to be carried out in accordance with the relevant details contained within these notes and Approved Document E .

PART F: VENTILATION

PURGE (NATURAL) VENTILATION

Purge (natural) ventilation to be provided to all habitable rooms equal to 1/20th (5%) floor area where the external windward/corner open more than 30 degrees and increased to 1/10th (10%) of the floor area where the windows opens between 15 - 30 degrees. Window openings which open less than 15 degrees is not suitable for purge ventilation and alternative ventilation details are required as detailed below and in compliance section 5 & Appendix B of Approved Document F.1. Purge (natural) ventilation openings to habitable rooms to be typically 1.75m above floor level. The area of external windows, roof windows & doors should not exceed 25% of the usable internal floor area otherwise SAP calculations may be required from a suitably qualified person to confirm design flexibility where they exceed 25% of the usable floor area.

Means of escape windows to be fitted with proprietary hinges to open to the minimum required clear width of 450mm. Escape windows must have minimum clear opening casement dimensions of 0.33m² and 450mm (typically 450mm wide x 750mm high), located within 800-1100mm above floor level to all bedrooms and habitable rooms at 1st floor level and inner habitable rooms on the ground floor. Windows above the ground floor storey and within 800mm of floor level are to be provided with containment/ guarding/ proprietary catches which should be removable (child proof) in the event of a fire. Where escape windows cannot be achieved, direct access to a protected stairs (or protected route to inner rooms) is acceptable in compliance with ADB1- par 2.6 (a) or (b).

MECHANICAL EXTRACT VENTILATION & FRESH AIR INLETS FOR ROOMS WITHOUT PURGE VENTILATION

Mechanical extract ventilation & fresh air inlet are required for habitable rooms without purge (natural) ventilation which must designed by a ventilation specialist having a minimum of 4 air changes per hour & manually controlled in compliance section 5 of Approved Document F.1.

BACKGROUND VENTILATION

Background ventilation to be provided equivalent to 8000mm² to habitable rooms and 2500mm² to wet rooms via hit and miss or 2 stage catches fitted to windows

MECHANICAL EXTRACT VENTILATION RATES

Mechanical ventilation is to be provided to the rooms listed below directly ducted to the outside air equivalent to the following rates.

Kitchen 30 litres per second over hob or 60 litres elsewhere
Utility room 30 litres per second
Bathroom 15 litres per second (including shower rooms & en-suites)
Toilet 6 litres per second (WC with or without a window)

GENERAL REQUIREMENTS FOR MECHANICAL EXTRACT VENTILATION
Mechanical ventilation to rooms without operable windows to be linked to light operation and have 15 minutes overrun and a 10mm gap under the door for air supply. Fans must not be installed in rooms containing open fire appliances unless the interaction of mechanical ventilation & open fire heating appliances is checked and certified by an approved method & suitably qualified person as contained in AD J.

Mechanical ventilation to be ducted in proprietary insulated ducts to outside through walls to proprietary vent or through roof space to proprietary matching tie roof/vent

PART G: SANITATION, HOT WATER SAFETY AND WATER EFFICIENCY

WHOLEHOUSE WATER SUPPLY
Sinks with hot and cold running water are to be provided in all food preparation areas, bathrooms to be fitted with either a bath or shower. Hot & cold water taps to wash basins, baths, showers & sinks including external taps to have water from a wholesome water supply.

SAFETY VALVES & ENERGY CUT OUTS

Where a building is converted into a new dwelling, the bath should be fitted with an in line blending valve fixed at 46 degrees centigrade.

Hot water storage systems to be restricted to 100 degrees C max and outlets from domestic hot water storage vessels to be fitted with an in line hot water supply tempering valve to prevent water temperatures exceeding 60 degrees C max.

Hot water storage vessels to be fitted with a non-self-setting energy cut out to instantly disconnect the power supply.

WASH BASINS & SEPARATION OF W/C FROM ANY FOOD PREPARATION AREAS
Wash hand basins to be provided in all rooms containing a WC and a door must separate the WC from any food preparation area in a dwelling.

WATER TANKS/CISTERNS BASE
Water tanks/cisterns must have an adequate designed flat platform base to support the proposed loads.

COMMISSIONING CERTIFICATES
Commissioning certificates for fixed building services are required on completion with a copy sent to Building Control.

SUPPLY (WATER FITTINGS) REGULATIONS 1999

All new water installations must be in compliance with the 'Supply (Water Fittings) Regulations 1999 for England and Wales, for the protection against frost and freezing, prevention of waste, misuse, undue consumption, contamination and erroneous measurement of a water supplier's mains water supply. A free copy of regulations can be downloaded from the HMSO website, or alternatively a hard copy of the new Regulations can be purchased directly from your local HMSO stationery office. The Regulations are Statutory Instrument No 1148 and the amendments are Statutory Instrument No 1506 both dated 1999.

PART H: DRAINAGE AND WASTE DISPOSAL

FOUL WATER DRAINAGE

FOUL RAIN & STORM WATER DRAINAGE SYSTEMS
Both storm and foul drainage to consist of 100mm diameter uPVC proprietary underground drainage laid at a minimum gradient of 1:40 where serves up to one WC or 1:80 where serves two or more WCs, surrounded in pea/sieve size gravel a minimum of 900mm deep in drives and roads and 400mm elsewhere, unless provided with a 100mm reinforced concrete (excluding curbsides & storage areas), fitted with lamps which must have a luminous efficiency greater than 40 lumens per circuit-watt and a total output greater than 400 lamp lumens