



## REAR ELEVATION

## FLANK ELEVATION

## FRONT ELEVATION

FOUNDATIONS: trench fill or strip footings to suit conditions as determined on site, and as specified by the engineer, with u/s not less than one metre below ground level. Note position of trees and NHBC chapter 4.2. Stop concrete each side of any drain run and bridge over with r c lintel. LAYOUT TO BE VERIFIED BY THE ENGINEER. WIDTHS OF FOOTINGS TO BE STATED BY THE ENGINEER.

GROUND FLOORING: Generally 65 - 75mm screed (with u/door heating pipes, on mesh) on vapour-barrier, on GA30802 Celotex (turned up at perimeters) on BBA approved hollow core planks. Ends of planks to be installed on recommended d.p.c's. Ensure min 150mm drained void under the beams, ventilated with 225x75mm terracotta air bricks at least 3m centres,(on opposite walls) using extra long periscope ventilator system. The beams indicated on the drawing are for illustrative purposes only - actual layout is to be provided by the manufacturer, and the floor installed in accordance with manufacturer's recommendations, ensuring lateral restraint as necessary. In hall (and elsewhere?) stone tiles on 65mm screed may be preferred.

If/where a timber finish is required use 22mm oak boarding, on 500g on vapour barrier, on battens, on cross battens secured to mortar-levelled flooring (in lieu of screed & stone) Fit 75mm Celotex between battens and use proprietary u/door heating system, - such as David Robbins system.

FIRST FLOORING Use EasiJoist system (or similar) installed in accordance with manufacturer's recommendations, with 22mm t & g flooring grade chipboard (water resistant in bath/shower rooms) and 12.7mm plasterboard, screwed to joists, and skim coat under. Use 100mm mineral wool (min density 10kg/cubic metres) for sound reduction. The builder is to send a copy of this drawing to the supplier who should prepare a layout. Ensure that where loadbearing stud partitions exist on the first floor they do not crush the joists.)

WALLING two 100mm leaves of aircrete blocks (Typolic Supaloc 4 or as otherwise specified by the engineer) with 75mm cavity filled with Isover Hi-Cav 32 insulation. Strength & thickness of blocks to be specified/confirmed by engineer. Stainless steel ties to be provided at 900mm horizontal c's, and 450mm vertical c's, with additional ties at corners and reveals. Thermalite cavity closers to be provided at reveals. 75mm Hi-Cav 32 with two leaves aircrete gives a u-value of 0.27. Use two coat render externally, first coat 1:2:9, second coat 1:1:6, painted three coats emulsion. (Proprietary through-coloured render would look dreadful).

All work to conform to BS 5628 pt 3, Mortar 1:4 Limebond/sand above dpc level (except where otherwise stated by engineer). Mortar below dpc level to be 1:3 sand/cement. Expansion joints should ideally occur within 4m of corners of the building and at 7mm maximum centres Use of BRC Brickforce reinforcement at 225mm vert c's would allow this spacing to be doubled (tel 01785 222288).

TILED ROOF: plain clay tiles, as agreed, on battens, on breathable sarking membrane (eg Kingspan Nilvent) on trussed rafters (as specified by the manufacturer) generally at 42.5 degree pitch spiked and strapped to 100x75mm wallplate (installed in lengths of not less than 3m) and strapped to walling. Carefully fit Celotex KR3120 insulation between the rafters (assuming the rafters is 145mm or greater), leaving 25mm air space between the insulation and the membrane. (Fit battens to sides of rafters to ensure that the space is not blocked.) Provide 40mm Celotex TB3000 with taped joints to u/s rafters, finished with plasterboard and skim coat plaster. (This gives a u-value of 0.16). All to be in accord with Celotex recommendations. (NHBC recommends high level ventilation but, if provided, this should be out of sight, or 'invisible'.) Lean-to roofs to have equivalent insulation.

FIREPLACES & VENTILATION: the rooms in which the fireplaces exist should have a proprietary permanent air vent of around 65,000 sq mm. Hearth should be formed of non-combustible material and be at least 125mm thick, and give an area of at least 840x840mm. Information essential to the correct use of the appliance should be permanently posted in the building. Structural combustible material should be positioned, either, at least 200mm from flue, or 40mm from outer face of stack. For neatness a pair of floor vents with bronze grill either side of the hearth is suggested. The fireplace here should have a HETAS approved stove as a secondary form of heating (but it may be converted to something else later).

STUD PARTITIONS to be ex 100x50mm regularised, at 400mm c's, with 100x50 head and base plates, and nogginns at third points. Double studs to each side of openings, with pair of 100x50 lintels supported on cut-down 'tinner' stud. 12.5mm plasterboard and skim coat to each side. Use 12mm whp ply to studwork above any shower trays. Hang 25mm unfaced mineral wool (min density 10kg/sq m) between studs for acoustic reasons.

BLOCK PARTITIONS: 100mm blockwork as indicated with suitable precast or steel lintels over openings.

MEANS OF VENTILATION. There shall be adequate means of ventilation provided for people in the building. Part F, 1.1 shows three methods of providing the required combination of 'extract', 'whole-building' and 'purge ventilation'.

The simplest method of achieving this is to provide extract ventilation as follows:

Kitchen: 30 l/s over hob, or 60 l/s elsewhere. Utility Room: 30 l/s. Bathroom or shower room 15 l/s. Lavatory: 6 l/s or openable window.

'Whole-building' ventilation for the supply of air to habitable rooms should be at least equal to Table 1.1b. (For five bedrooms: 29 l/s.)

Guidance on suitable location of ventilation devices in rooms is set out in Table 1.4. Guidance on suitable ventilation control is set out in Table 1.5. Methods of testing are set out in Table 1.6.

'Purge Ventilation' (i.e. openable window or fan) is required to each habitable room capable of giving four air changes per hour. Assuming the eavesment opens more than thirty degrees, or such windows are used, the openable area of the windows (or doors) should be at least 5% of the floor area.

Guidance on how to achieve the necessary whole building background ventilation is set out in paragraph 1.8 (which applies where no basement exists, or where the basement is separated from the rest of the house.) Table 1.2a sets out the whole house equivalent ventilation area, which in this case, with 195 sq metres of floor area, is 95,000 sq mm. The builder is to provide this in a proportional manner to the rooms throughout the house. (Simple arithmetic is required here. The volume of the house is approx 520 cubic metres: so work out the volume of each room as a percentage of the total volume, and provide the necessary background ventilation in each room. But not less than 5000 sq mm in any habitable room, or 2500 sq mm in any wet room.)

INTERNAL DRAINAGE: to comply with Approved Document H. Sink and bath wastes min 40mm; whb and shower wastes min 32mm. All fittings to have 75mm deep seal traps. Rodding eyes at all changes of directions. 100mm cast iron SVP's to be connected to drain via an easy bend, and terminated in ridge ventilator, via a flexible 75mm pipe taken through loft (or simply through the eaves and terminated in wire balloon in the traditional manner). Use anti-siphon traps where the drain run is longer than the Part H limits.

UNDERGROUND DRAINAGE: 100mm clayware or 110mm PVCu laid in accord with manufacturer's recommendations, at steady fall of not less than 1:80. Run new connection to sewer in Foxley Lane (unless the existing drain can be shown to be usable and in excellent condition, and is used with the written agreement of Mr and Mrs Podd.). All junctions and changes in direction for all drainage must be accessible for rodding.

SURFACE WATER DRAINAGE: suggest black finished 113mm traditional half round with 78mm circular down pipes (with proper swan necks) and with cleaning shoes at base, generally as indicated. Discharge to soakaways in positions agreed on site (but not less than 5m from house). Soakaways to be sized in accordance with Appendix 5.3F of the NHBC Handbook (e.g. drill 150mm dia hole 1m deep, pour in 5.5 litres of water and note the time the hole takes to drain, and then work out from the NHBC table the size of soakaway required. Total of approx 170 sq m (= hardstanding) to be drained, to be divided by the number of soakaways provided. Construct the soakaways using pre-cast concrete rings.

FACILITIES FOR THE DISABLED. Front door threshold to provide easy access for wheelchair users. (See sections.) All electrical switches and sockets to be between 450 and 1200 above F.L. G/F doors to habitable rooms and lav to be not less 838mm wide. A clear space of 900x750mm must exist in front of the 'accessible' ground floor lavatory.

ENERGY EFFICIENT LIGHTING: the new house should have low-energy light fittings at either the rate of one per 23 sq m of floor area, or one per four fixed light fittings (whichever is the greater) where the fixed lighting can only take lamps having a luminous efficacy greater than 40 lumens per circuit-watt (such as compact fluorescent tubes).

External lighting to be equally efficient and have a sensor that extinguishes the light during the daylight.

AN AUTOMATIC FIRE DETECTION AND ALARM SYSTEM: should be fitted with a fire detection and fire alarm system in accord with BS 5839-6:2004 to at least Grade D Category LD3 standard. (Mains operated with battery back-up.)

UPPER STAIRS: details generally as above, but approx 800 - 750mm wide.

DOORS: all internal doors (to habitable rooms where off the staircase enclosure) to be FD30 type. There is no longer a need for fire doors to be self closing. Suggest 44mm min thickness timber panel doors. Doors to habitable rooms on the ground floor to be not less than 2'9".

WINDOWS/GLAZING. Casement windows with painted timber frames and substantial sub sills (which may be integral or separately installed) with frame set back approx 115mm from face of wall. All windows and glazed doors are to have sealed double-glazed, and U-value of 1.8 or better. Safety glass to be used in all glazed doors, adj glazed panels, and all windows where glass is within 800mm of floor. All windows and doors to be draft-stripped, to achieve the air test pass.

Ideally ironmongery to be able to achieve secure background (so as to avoid need for trickle ventilators) but the calculations would be difficult.

ELECTRICAL SERVICES are to be installed in accordance with latest IEE Regulations: designed and installed to afford protection of the building against damage, and protect people from harm. The system is to be inspected and tested to verify this, and so certified by a qualified & registered electrician.

CONSERVATION OF FUEL & ENERGY.

(a) The building needs to meet the CO2 emission rate as calculated using SAP 2005. This will, before the first revision of this drawing not have been done, but the architect intends to arrange this. (Hence the specification might change in due course.)

(b) The building fabric & services are to be reasonable (as indicated in Approved Document L1A).

(c) Fabric insulation and air tightness to comply with L1A, and be in accordance with 'Accredited Construction Details' (see [www.planningportal.gov.uk/england/professional/en/1115314255826/html](http://www.planningportal.gov.uk/england/professional/en/1115314255826/html). This will need to be tested upon completion, and proof of passing supplied to the BCO. See from Energy Assessor's report the air tightness figure required.

(d) Satisfactory information is to be supplied to future owners to allow energy efficiency in use

(e) Note the self-certification schemes listed in Schedule 2A of Approved Doc L1A, and use suitably-qualified personnel to install all services and systems, and to provide a certificate of compliance with the Building Regulations to the BCO.

CENTRAL HEATING: balanced flue boilers, with SEDBUK rating of not less than 86% is to be provided. The system is to have at least two zone controls and normal timing controls. A boiler interlock is to be fitted (so that the boiler switches off when no heat is required).

New hot water cylinder, to BS 1566 or 3198, with 35mm insulation jacket and thermostat controlled by the c.h. timer.

C.h. pipes to have 40mm insulation, and h.w. pipes to have 15mm insulation for at least one metre either side of the cylinder.

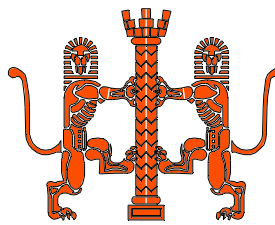
Operating and maintenance instructions are to be provided to the owner.

A commissioning certificate of compliance with the Building Regulations is to be supplied by a CORGI registered fitter to both the owner and the Building Control Officer. A gas safety certificate is to be provided to the owner.

Secondary Heating System: HETAS approved wood burning stove.

CO2 EMISSION RATE CALCULATIONS. The person carrying out the work shall provide to the BCO a notice specifying the target CO2 rate for the building and a notice specifying the calculated CO2 emission rate for the building as constructed. Such a certificate to be provided by a person registered by FAERO or BRE Certification Ltd. See Reg 20D of L1A.

This drawing is intended for Planning and B/C purposes only. All items not required to be approved by the L.A. are to be agreed between the Employer and the Builder before signing a contract.



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## ELEVATIONS & SPECIFICATION

scale 1:50

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