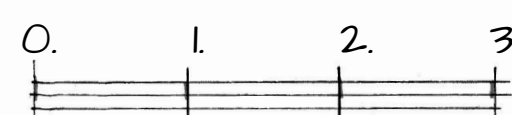


STRUCTURAL STEELWORK

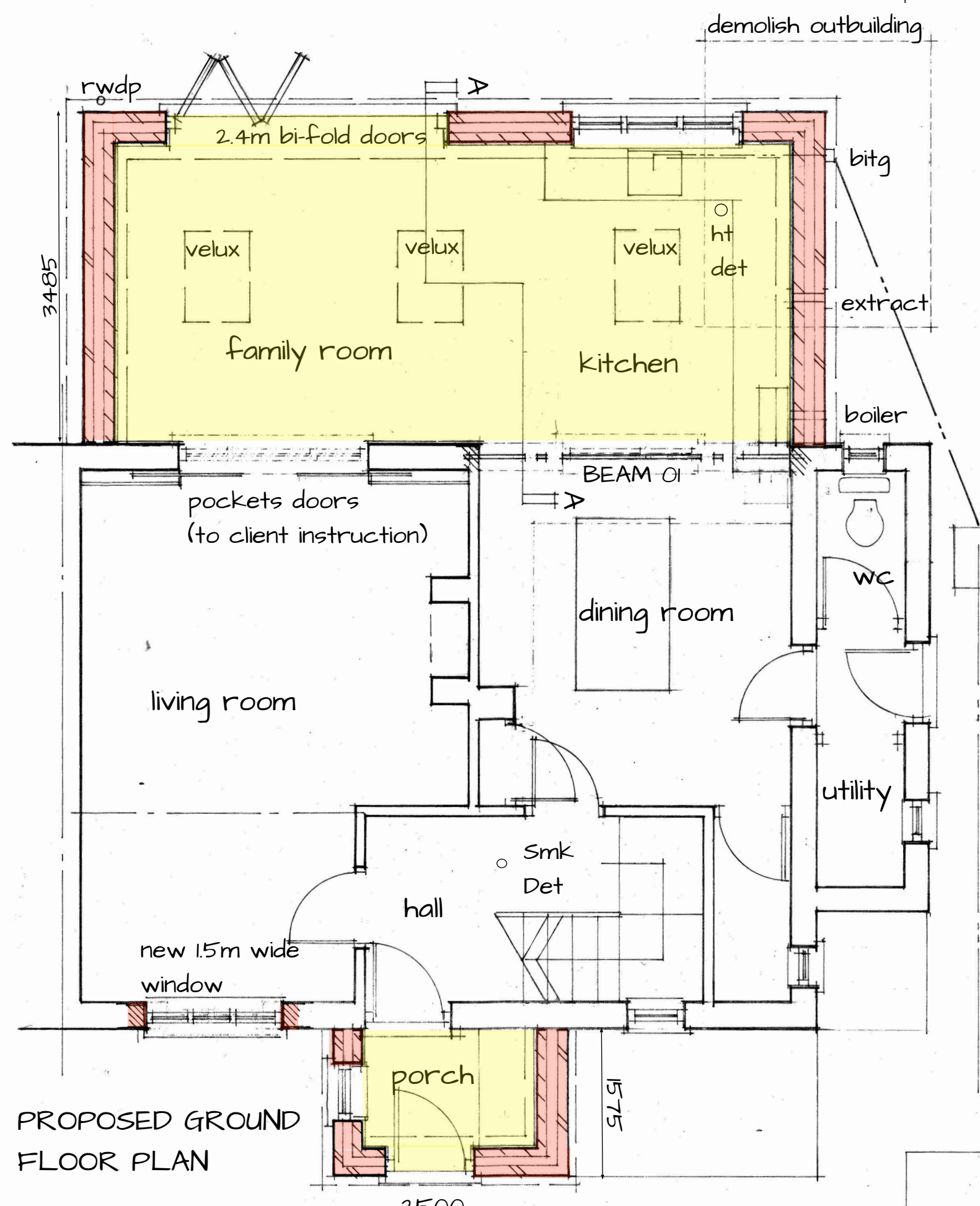
Refer to Structural Engineers calculations, specification and details for all steelwork, and all connections and details. All structural steelwork to be installed in strict accordance with the Structural Engineer's details.

EXISTING STRUCTURES

Take down existing outbuilding and clear away from site.
 Take out rear living room window to form internal door opening and insert pocket door or other style of internal door to Client instruction.
 Take out front living room window and increase opening to 1.5m. Insert cavity lintel to suit and thermabate insulated closers to reveals.
 Take down section of rear external wall to kitchen and insert Steel beam CI to structural engineers details.
 All external walls where now internal are to be plastered.



SCALE 1: 50 @ A1



PROPOSED GROUND FLOOR PLAN



FRONT ELEVATION

EXTERNAL WALLS

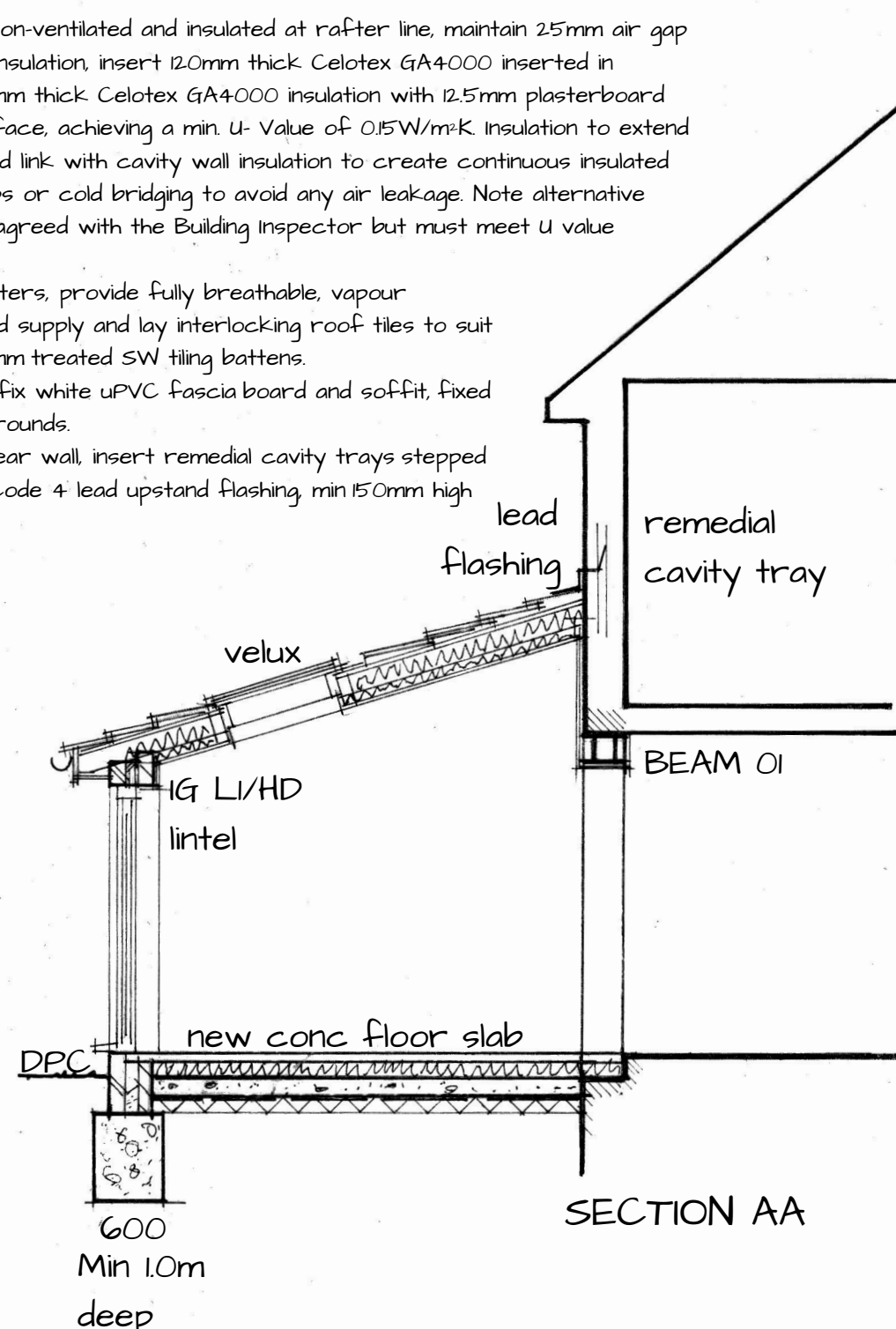
New external cavity walling to be formed in 102.5mm facing brickwork outer leaf to match existing tied across 100mm wide cavity to 100mm thick thermal concrete blockwork inner leaf with a thermal conductivity of 0.015 W/mK. Insert Full Fill insulation with a thermal conductivity of 0.021 W/mK (eg Xtratherm Cavitytherm 360) with 12.5mm plasterboard and skim internal finish or full fill insulation with a thermal conductivity of 0.032 W/mK (eg Knauf Dritherm Cavity Slab 32) with 12.5mm Celotex PA4-000 insulated plasterboard or 40mm Celotex GA4-000 and 12.5mm plasterboard and skim internal finish, all to achieve 0.18W/mK U-Value.
 Leaves of cavity wall to be tied together using stainless steel wall ties at 450mm vertical centres and 750mm horizontal centres, 300mm vertical centres adjacent to openings and abutments. Bond both leaves of new cavity wall to existing structure using stainless steel vertical wall starter ties by Fur-fix or similar. Over window openings, provide IG cavity lintel L/S100 of HD lintel over bi-fold doors.
 At reveals, insert proprietary insulated cavity closers by Thermabate.

NEW PITCHED ROOF STRUCTURES

Construct mono-pitched roof to comprise 50x150mm C24 graded SW rafters fixed at 400mm c/c, cut over 50x100mm SW wall plate bolted to wall at 12m c/c using M10 bolts. Cut and trim rafters for rooflight apertures and double up rafters either side. At external wall abutment, birds mouth rafters over 50x100mm SW wall plate, strapped over inner leaf of cavity wall at max 2.0m c/c using 30x5mm MS straps. Provide 30x5mm MS lateral restraint straps at half gable ends, with straps fixed at 2m c/c over 3No end rafters.
 Roof structure to be a non-ventilated and insulated at rafter line, maintain 25mm air gap between felt and top of insulation, insert 120mm thick Celotex GA4-000 inserted in between rafters and 50mm thick Celotex GA4-000 insulation with 12.5mm plasterboard lining applied to the inside face, achieving a min U-Value of 0.15W/mK. Insulation to extend down to wall plate level and link with cavity wall insulation to create continuous insulated layer and to avoid any gaps or cold bridging to avoid any air leakage. Note alternative insulation products to be agreed with the Building Inspector but must meet U value requirements.
 Over top surface of rafters, provide fully breathable, vapour permeable roofing felt and supply and lay interlocking roof tiles to suit roof pitch laid on 25x50mm treated SW batten.
 At eaves level, supply and fix white uPVC fascia board and soffit, fixed to rafter feet and SW grounds.
 Where new roof abuts rear wall insert remedial cavity trays stepped as required, and provide Code 4 lead upstand flashing, min 150mm high.

FOUNDATIONS AND SUBSTRUCTURE

Excavate trenches for new trench fill foundations, 600mm wide below new external walls, to a minimum depth of 1.0m below ground level extending to a final agreed depth, to be agreed on site, subject to inspection and approval by the Building Inspector above foundations to external walls up to DPC, construct 300mm wide cavity wall construction up to DPC level, located a minimum 150mm above ground level. Outer leaf to be 102.5mm thick FL Class brickwork and inner leaf 100mm dense concrete blockwork to BS 6073, Tarmac Topblock or similar approved. Fill cavity will lean mix concrete below ground level, 225mm below DPC level. DPC to be Hylod Permbat Housebuilder or similar approved, provided to both leaves of cavity walls and maintained at min 150mm above ground level. Ground floor structure to be in situ concrete floor, comprising of 150mm thick layers of fully compacted and sand blinded type 1, overlaid with 1200 gauge polythene DPM turned up at wall abutments to link at DPC level. Over DPM, cast 150mm thick concrete slab with 100mm thick Celotex GA4-000 insulation board achieving a U-Value of 0.16W/m². Provide 25mm thick insulation board at edge abutments, up to finished floor level. Over insulation, provide building paper separating layer to BS 1521:1972 of 500 gauge DPM and overlay with 75mm thick, sand and cement screed.



SECTION AA



REAR ELEVATION

FOUL WATER DRAINAGE

Lay new below ground drainage from kitchen gully and connect into end of existing FW sewer run. New drains to be 100mm diam plastic pipes laid at 1 in 40 fall and in class B bedding and surround.
 Provide 40mm diam plastic waste from 75mm deep seal trap below sink and discharge direct into below ground drainage via external BTG.

RAINFALL DISPOSAL

All rainwater goods to be black plastic, half round gutters and 63mm diam downpipes, to discharge over RW gully and into existing underground SW drainage system, to be identified on site, and agreed with the building inspector.

FIRE PROTECTION AND MEANS OF ESCAPE

Install mains operated smoke detection system to BS 5446: Part 1. Install smoke detection units within ground floor hallway and first floor landing and heat detector in kitchen.
 All smoke and heat detectors to be provided with 24-hour battery back up facility. The system is to be tested, commissioned and certified by a Third Party inspector.
 All steelwork supporting floor and wall loading is to be encased in 2No. layers 12.5mm plasterboard and skim to achieve 30 minute fire resistance.

SERVICES

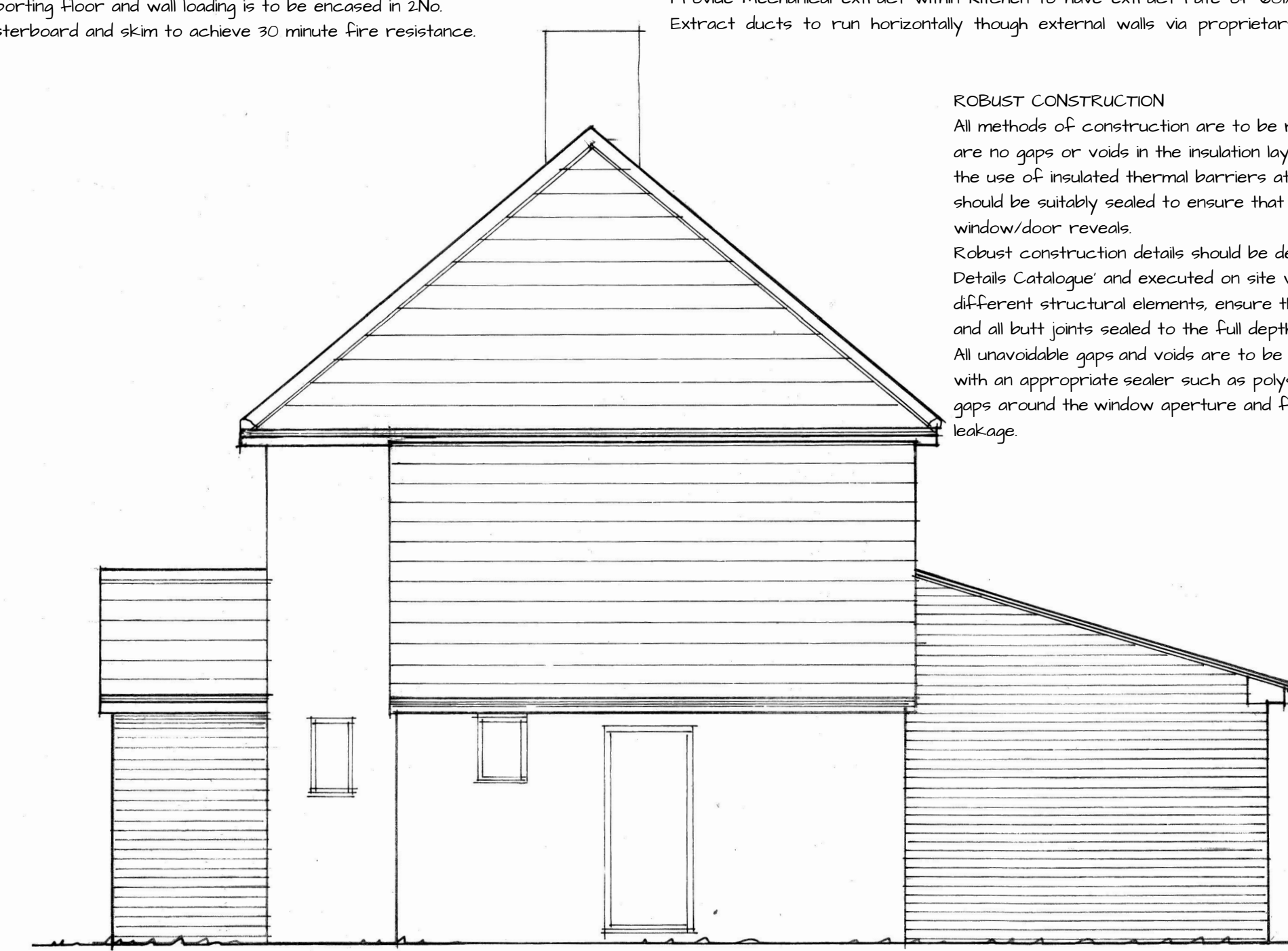
Relocate existing gas boiler and alter and adapt any gas supplies to new appliances - to be undertaken by a registered GAS SAFE installer. All heating and hot water installations to be undertaken by a person registered under the Building Engineering Services Competence Accreditation Ltd.
 Central heating to be provided by wall mounted pressed steel radiators by Stelrad or similar approved, extended from existing flow and return and fitted with thermostatic radiator valves throughout. Allow for any under-floor heating subject to Client instruction.
 Hot and cold water and central heating to be extended from existing supplies, with all new pipework concealed between floor joists or within boxing and heating / HW pipes to be insulated to limit heat loss.
 All wiring and electrical work will be designed, installed, inspected and tested in accordance with the requirements of BS7671, the IEE 18th edition Wiring Guidance and Building Regulations Part P (Electrical Safety), by a competent person registered with an electrical self-certification scheme, authorised by the Secretary of State (BRE, BSI, ELECSA, NAPIT or NICEIC). The competent person is to send to the local authority a self-certification certificate within 30 days of completion of the electrical works. The Client must receive both a copy of the self-certification certificate and a BS7671 Electrical Installation Test Certificate and forward copies to Building Control.
 All electrical services are to be extended from existing mains for small power, lighting and shower etc. New lighting is to be energy efficient type with fluorescent lamp, not tungsten.

MECHANICAL VENTILATION

Provide Mechanical extract within Kitchen to have extract rate of 60l/s or 30l/s where adjacent to a hob. Extract ducts to run horizontally through external walls via proprietary louver vent.

ROBUST CONSTRUCTION

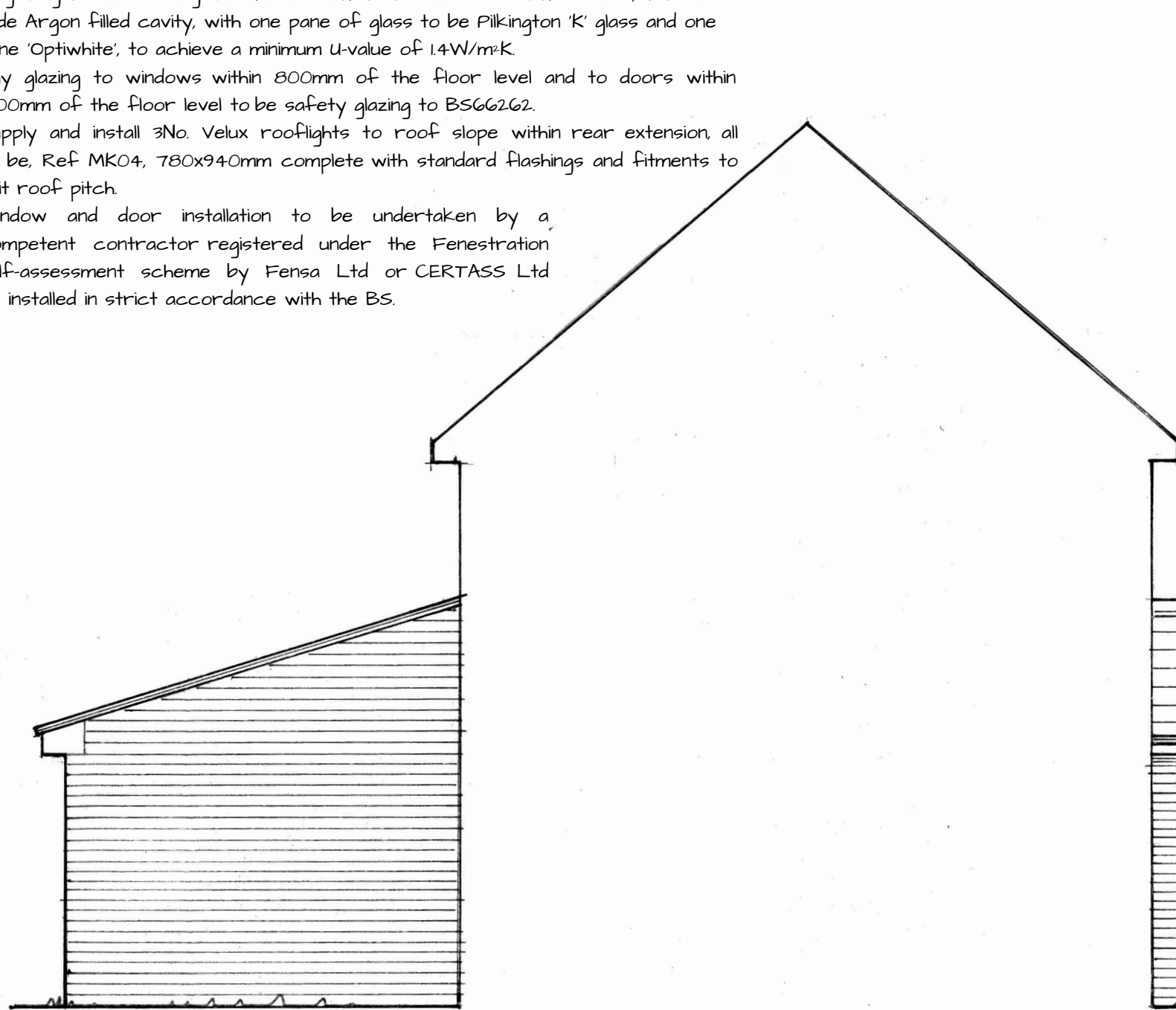
All methods of construction are to be robust to reasonable ensure that there are no gaps or voids in the insulation layers and that cold bridging is avoided by the use of insulated thermal barriers at abutments where practicable. Junctions should be suitably sealed to ensure that air leakage is minimised, especially at window/door reveals.
 Robust construction details should be designed in accordance with TSO Robust Details Catalogue and executed on site with due diligence. At abutments between different structural elements, ensure that opposing materials are properly joined and all butt joints sealed to the full depth of the structure.
 All unavoidable gaps and voids are to be filled with insulation material and sealed with an appropriate sealer such as polysulphide mastic sealant or caulking. Seal all gaps around the window aperture and fill all voids with insulation to limit air leakage.



SIDE ELEVATION

WINDOWS AND DOORS

New windows to be white uPVC framed with clear and obscured double glazed sealed units and fitted with head ventilators providing min. 8000mm² and to have operable casements.
 Bi-fold doors to be 2.4m wide, white or coloured uPVC or powder coated aluminium framed. Front door to be coloured composite door and uPVC frame.
 All glazing to be double glazed sealed units to BS EN 1279 Parts 2 and 3, with 16mm wide Argon filled cavity, with one pane of glass to be Pilkington K glass and one pane 'Optiwhite', to achieve a minimum U-value of 1.4W/m²K.
 Any glazing to windows within 800mm of the floor level and to doors within 1500mm of the floor level to be safety glazing to BS6622.
 Supply and install 3No Velux rooflights to roof slope within rear extension, all to be Ref MK04, 780x940mm complete with standard flashings and fitments to suit roof pitch.
 Window and door installation to be undertaken by a competent contractor registered under the Fenestration self-assessment scheme by Fensa Ltd or CERTASS Ltd or installed in strict accordance with the BS.



FLANK ELEVATION

1			
2			
3			
4			
Date		Revision	
All dimensions to be checked on site and any			
DAVID ROWE Dip Surv MCIQB			
29 Mill Road, Bletchley, Bucks, MK2 2LB Email - davidrowedesign@gmail.com Tel - 07867977575			
CLIENT			
MR AND MRS P&S HOOPER			
PROJECT			
30 BARLOW ROAD WENDOVER BUCKS			
DRAWING			
PROPOSED REAR EXTENSION AND FRONT PORCH			
SCALE			
1: 50 @ A1			
DATE	APRIL 2024		DRAWN BY
			DRR
DRG NO.	24-SH-001		REV