



2 X NEW ROOF LIGHTS
2 x new velux windows 550mm(w) x 698 to be fitted. Double rafters to be fitted each side from ridge to existing purlin. Roof lights to have "hammer" formed from window to openings in ceiling in new en suite bathroom and new corridor.
Min U-value of 1.6 W/m²K.
Roof lights to be double glazed with 16mm argon gap and soft low-E glass. Window Energy Rating to be Band C or better. Roof lights to be fitted in accordance with manufacturer's instructions with rafters doubled up to sides and suitable flashings etc.

PITCHED ROOF INSULATION AT CEILING LEVEL
Pitch 22-45° (imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)
To achieve U value of 0.16 W/m²K
Roofing tiles to match existing on 25 x 38mm tanalised sw treated battens on sarking felt to BS747 supported on 47 x 150mm grade C16 rafters at max 400mm centres max. Rafters supported on 100 x 50mm saw wall plates. Insulation at ceiling level to be 150mm Rockwool insulation laid between ceiling joists with a further 170mm layer over joists (cross direction).
Construct ceiling using sw joists at 400mm centres, finished internally with 12.5mm plasterboard and min 3mm thistle multi-finish plaster. Provide polythene vapour barrier between insulation and plasterboard.
Provide opening at eaves level at least equal to continuous strip 25mm wide in two opposite sides to promote cross-ventilation.
Restraint strapping - 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, in accordance with CP111 Part 2.

WARM 'CAT SLIDE' 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
Roofing tiles to be same as tiles for main roof fixed to tile battens secured over breathable sarking felt to BS747 or relevant BBA Certificate allowing the breather felt to sag at least 10mm over rafters. Provide 100mm Celotex GA4000 insulation boards between rafters at underside and 50mm Celotex GA4000 across underside of 47 x 170mm timber rafters strength class C24 at 400 c/c - to give a max 3.47m span. A vapour control layer should be provided to the underside of the rafters. Finish with 12.5mm plasterboard and skim.
Restraint strapping - Ceiling joists tied to rafters 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, in accordance with CP111 Part 2.

ROOF LIGHTS
Min U-value of 1.6 W/m²K.
Roof lights to be double glazed with 16mm argon gap and soft low-E glass. Window Energy Rating to be Band C or better. Roof lights to be fitted in accordance with manufacturer's instructions with rafters doubled up to sides and suitable flashings etc.
Roof light to be top hung to allow for fire escape and. Bottom of roof light to finish no higher than 1100mm from finish floor level for fire escape.
Velux window to be 942(w) x 1178 allowing for min of 450 x 450 min size for fire escape.

WARM MONO 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
Roofing tiles to be for pitches down to 22.5 degrees Redland Double Roman, Stonevale etc) fixed to tile battens secured over breathable sarking felt to BS747 or relevant BBA Certificate allowing the breather felt to sag at least 10mm over rafters. Provide 100mm Celotex GA4000 insulation boards between rafters at underside and 50mm Celotex GA4000 across underside of 47 x 170mm timber rafters strength class C24 at 400 c/c - to give a max 3.47m span. A vapour control layer should be provided to the underside of the rafters. Finish with 12.5mm plasterboard and skim.
Restraint strapping - Ceiling joists tied to rafters 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, in accordance with CP111 Part 2.

EXISTING TO NEW WALL
Cavities in new wall to be made continuous with existing where possible to ensure continuous weather break. If a continuous cavity cannot be achieved, where new walls abut the existing walls provide a movement joint with vertical DPC. All tied into existing construction with suitable proprietary stainless steel profiles.

INTERMEDIATE FLOORS
Intermediate floor to be 18mm t&g flooring grade chipboard or floorboards laid on C16 180mm x 50mm joists at 400mm ctrs. Lay 100mm Rockwool mineral fibre quilt insulation min 10kg/m³ or equivalent between floor joists. Ceiling to be 12.5 FireLine plasterboard with skim plaster set and finish. Joist spans over 2.5m to be strutted at mid span using 38 x 38mm heringbone strutting or 38mm solid strutting (at least 2/3 of joist depth). In areas such as bathrooms, flooring to be moisture resistant grade in accordance with BS7331:1990. Identification marking must be laid upper most to allow easy identification. Provide lateral restraint where joists run parallel to walls, floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanized mild steel straps or other approved in compliance with BS EN 845-1 at max 6.0m centres, straps to be taken across minimum 3 no. joists. Straps to be built into walls. Provide 38mm wide x 1/4 depth solid noggins between joists at strap positions.

WALLS BELOW GROUND
All new walls to have Class A blockwork below ground level or alternatively semi engineering brickwork in 1:4 masonry with cement or equal approved specification. Cavities below ground level to be filled with lean mix concrete min 25mm 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 2004 Building Regulations A1/2 and BS 8004:1985 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.

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 sand binding. Provide a 1200mm gauge polythene DPM, DPM to be lapped in with DPC in walls. Floor to be insulated over DPM with 100mm Knuf Polyfoam Floorboard Standard.
75mm insulation to continue around floor perimeters to avoid thermal bridging/maintain cavity. A VCI 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 150mm ST2 or Gen2 suspended slab reinforced with B785 mesh over VCI. Slab to bear onto inner skin of new cavity walling and outer skin of existing cavity walling (on 450mm pockets cut every other 450mm) Finish with 65mm sand/cement finishing screed with light mesh reinforcement.
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.

PITCHED ROOF
Pitch 22-45° (imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)
New roof to be pitched onto 200 x 38mm joists over existing hips/pitch, rafters to be 47 x 170mm grade C16 at max 400mm centres. Rafters supported on 100 x 50mm saw wall plates. Ridges and hips to be 225x38mm c16 timber.
Construct ceiling using 47 x 180mm c16 joists at 400mm centres.
Restraint strapping - 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.

GENERAL NOTES
ELECTRICAL WORKS
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 BPEC certification Ltd (BS), NICEIC Certification Services or Zurich Ltd. An appropriate 55/71 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 the client.
HEATING
Extend all heating and hot water services from existing and provide new TVRs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities by laws, Gas safety requirements and IEEE regulations.
NEW WINDOWS
New windows to be double glazed with 16mm argon gap and soft coat low-E glass. Window Energy Rating to be Band C or better and to achieve U-value of 1.6 W/m²K.
SAFETY GLAZING
All glazing in critical locations to be toughened or laminated safety glass to BS 6206 and Part N of the current building regulations, i.e. within 1500mm above floor level in doors and side panels within 300mm of door opening and within 800mm above floor level in windows.
NEW EXTERNAL DOORS
New external doors to achieve a U-Value of 1.80W/m²K. Glazed areas to be double glazed with 16mm argon gap and soft low-E glass. Glass to be toughened or laminated safety glass to BS 6206 and Part N of the current Building Regulations.

BEAM SPECIFICATION:-
Beam 1:- 127x76x13 UB on padstone 2 x courses of class A engineering bricks bedded in mortar mix 3:1
Min Bearing 100mm.
Beam 2:- 203x203x52 UC with 10mm flangeplate welded to top on padstone 3 x courses of class A engineering bricks bedded in mortar 3:1.
Min Bearing 150mm
Beam 3:- 203 x 203 x 30 UB on inside of cavity, 203x203x25 UB on outside of cavity bolted together at 400mm centres with spacers in between on padstone of 3 x courses of class A engineering bricks bedded in mortar 3:1.
Min bearing 150mm
All beams to be cased in 2 x layers of 12mm plaster board for fire protection.

NEW BATHROOM
Create new bathroom in existing 3rd bedroom. Change window glass to obscure glass.

AUTOMATIC AIR VALVE
Fittings from WC to be connected to new 110mm UPVC soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting and connected to underground quality drainage encased with pea gravel to a depth of 150mm.

EXTRACT FOR SHOWER ROOM & BATHROOM
Provide mechanical extract ventilation to shower room ducted to external air capable of extracting at a rate of not less than 15 litres per second. Vent to be connected to light switch and to have 15 minute over run if no window in the room. Internal ducts should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Installation Guide, Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EN SUITE
Remove section of existing bathroom wall and form new stud wall 100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm 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. 100mm Rockwool or Iso wool mineral fibre sound insulation) in all voids the full depth of the stu. Walls faced throughout with 12.5mm plaster board with skim plaster finish.

AUTOMATIC AIR VALVE
Fittings from WC to be connected to new 110mm UPVC soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting and min 900mm above window height, and connected to existing underground drainage encased with pea gravel to a depth of 150mm.

SMOKE ALARM
Provide an interlinked mains operated smoke alarm to hall and landing

BEAM 1
Refer to separate note and structural calculations for all beam information.

BEAM 2
Refer to separate note and structural calculations for all beam information.

BEAM 3
Refer to separate note and structural calculations for all beam information.

SMOKE ALARM
Provide an interlinked mains operated smoke alarm to hall and landing

PORCH ROOF
Remove existing flat roof, cut and pitch new roof from 47 x 100mm c16 timber on 47 x 100mm wall plates strapped to existing walls with galvanised plate straps

RAINWATER DRAINAGE
New rainwater goods to be new 110mm UPVC half round gutters taken and connected into 68mm dia UPVC downpipes. Rainwater taken to new soakaway, situated a min distance of 5.0m away from any building, via 110mm dia UPVC pipes surrounded in 150mm granular fill. Soakaway to be min of 1 cubic metre capacity (or to depth to Local Authorities approval with suitable granular fill and geotextile surround to prevent migration of fines. If necessary carry out a porosity test to determine design and depth of soakaway.

REAR EXTENSION
(see section)
Existing flat roof to be removed, wall plate to be lowered. Use IG L1/HD 75 or equivalent over door openings.
New walling to follow existing line as shown.

UTILITY
Boiler to be positioned here

BOILER
Boiler to be positioned here

EXISTING SOIL DRAINAGE
Existing svp to be replaced with upvc

EXISTING INSPECTION CHAMBER
Existing inspection chamber

CHIMNEY
Breast Chimney breast to both floors and chimney to be removed

ABOVE GROUND DRAINAGE
All new above ground drainage and plumbing to comply with BS 5572:1978 for sanitary pipework. All drainage to be in accordance with Part H of the Building Regulations. Wastes to have 75mm deep anti vac bottle traps and rodding eyes to be provided at changes of direction.
Size of wastes pipes and max length of branch connections (if max length is exceeded then anti vacuum traps to be used)
Wash basin - 1.7m for 32mm pipe 4m for 40mm pipe
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe
W/c - 6m for 100mm pipe for single WC
New soil pipe to run below floor level between joists and connect to existing SVP Existing SVP to be replaced with upvc above ground. All existing below ground drainage to be utilised by new sanitary, kitchen etc.
All branch pipes to connect to 110mm soil and vent pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting.
Waste pipes not to connect on to SVP within 200mm of the WC connection. Supply hot and cold water to all fittings as appropriate.

NEW STUD WALLS
New stud wall 100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm 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. 100mm Rockwool or Iso wool mineral fibre sound insulation) in all voids the full depth of the stu. Walls faced throughout with 12.5mm plaster board with skim plaster finish.

NEW OPENING
form new opening in original external wall. Support with 2x 100x65mm pre stressed concrete lintels.

LEAD VALLEYS
Lead-lined valleys to be formed using Code 5 lead sheet. Valley lead and two siling fillets to be supported on min 19mm thick and 225mm wide marine ply valley boards on either side of the rafters. Lead to be laid in lengths not exceeding 1.5m with min 150mm lap joints and be dressed 200mm under the tiles.
Roofing tiles to be bedded in mortar placed on a tile slip to prevent direct contact. Valley to have a minimum 100mm wide channel (150mm minimum for pitches below 30°).
All work to be in accordance with the roof cladding manufacturers and the Lead Development Association recommendations.