

SCOPE OF WORKS

Work consists of converting the existing double garage to form new kitchen/dining/lounge area, utility room and pantry. Including insulating all areas of walls and ceiling and construction of a new insulated floating floor to the same level as the existing house. The existing garage doors are to be removed and replaced with a new double skin wall insulated internally with the same stud-work as the other walls. New openings are to be formed as shown using steelwork as indicated. Roof windows are to be fitted between existing truss structure.

The existing main house layout is to be re-configured internally and externally with new window and door openings.

The existing conservatory is to be altered as illustrated to improve thermal performance including a new lightweight roof with roof window, insulated cavity walls to reduce glazing area and new windows and bifold doors.

All windows are to be replaced and new render finish provided to all external walls.

SPECIFICATIONS FOR GARAGE CONVERSION

NEW WALLS IN GARAGE TO INFILL GARAGE DOOR AND ELSEWHERE U-VALUE 0.3 W/m2k

Construct external skin of blockwork and internal skin of Plasmor Fibolite 3.6 or 7.2N or similar blockwork. Insulate internally with same method as the existing garage walls.

Ensure all new work is tied to existing using proprietary galvanised jointing system.

WALLS - U-VALUE 0.3 W/m2k

The existing garage walls should receive DPM linked to floor DPM, then 100mm studwork. Fit 70mm Celotex GA4000 or similar between studs. Finish with 27.5mm Celotex PL4015 or similar insulated plasterboard and skim finish.

PROPOSED GROUND FLOOR PLAN

NEW FLOOR - 'FLOATING FLOOR' - U-VALUE 0.25 W/m2k

The existing voids below the floor should be backfilled then a new concrete slab provided using well compacted hardcore at least 150mm thick, followed by sand blinding then a 1200GA DPM then concrete slab 150mm thick.

Form new floor, final finish level with existing house. Provide a minimum 1200GA DPM on top of existing slab, turned up existing walls and joined to proposed DPM. Use minimum Jabfloor 100 120mm thick EPS insulation followed by polythene separating layer then 18mm moisture resistant T&G flooring grade chipboard.

Any PIR insulation for example GA4000 will be acceptable at a thickness of 80mm or greater, this method may be better if an under floor heating system with screed is to be used.

ROOF/CEILING - U-VALUE 0.18 W/m2k

Roof windows are to be installed, size to fit between the existing truss system. Provide doubled up timbers to each side of the roof windows.

Insulate above existing garage ceiling using 300mm mineral wool in 2 separate layers running perpendicular to each other. Finish ceiling below with 12.5mm plasterboard and skim. Provide access hatch and ladder to roof space if required for storage.

If garage roof is not currently covered with a breathable felt/membrane then tile vents and soffit vents should be fitted.

UPGRADE OF EXISTING CONSERVATORY

A trial hole should be excavated to determine the depth and thickness of the existing foundations in order to confirm whether or not they are adequate.

Construct new walls as shown using insulated cavity construction.

Form new roof using 150mm x 50mm C24 Grade rafters at 450mm centres which should be doubled up at sides of velux window ensuring that each rafter is mechanically fixed top and bottom. Use a 150mm x 50mm timber wall plate bolted to the new wall with M10 anchor bolts at 600mm centres.

Use a 100mm x 75mm timber wall plate bedded on cement:sand mortar on the inner leaf and held down with 30mm x 5mm x 1m long galvanized straps plugged and screwed to blockwork at a maximum of 2m centres. Ensure a good birds mouth cut to the rafters over the top and bottom wall plates and mechanical fixings. Fix noggins where possible between rafters at gable ends to hold straps to retain brickwork verge, straps to be fixed to noggins and turned down cavity two per end elevation.

Use 38mm x 25mm tanalised battens and a breathable felt such as Tyvek followed by roof tiles to match suitable for the pitch and exposure conditions. A minimum of 15 degrees must be achieved where Velux roof windows are being used. If this cannot be achieved than a low pitch roof tile and special roof window should be used. For example, but not specifically, Planum low pitch clay roof tile using 180g/m2 air permeable membrane, 100mm headlap and tile clips to manufacturers instruction and specification, and low pitch Velux or Fakro roof window fitted in accordance with manufacturers details.

Use a code 4 lead flashing with minimum 150mm upstand and lead wedge into brick joint with sand:cement pointing.

WINDOWS, DOORS AND VENTILATION

Provide new lintels as shown above new openings to be formed, either steelwork with welded bottom plate or Catnic/IG lintels.

FRONT PORCH EXTENSION

FOUNDATIONS

Builder should initially allow for a strip footing of 900mm minimum dig, client should note that anything over this as required by the inspector will incur extra design and building costs. Please note that if there are trees nearby the depth of the foundation may need to comply with NHBC Guidance 'Building near trees'.

All Foundations to be excavated to a depth to satisfy building control inspector, any excavations within 1m of new or existing drains to be taken below invert level, any new or existing drains passing through substructure to be protected by bridging lintels. Footings to be traditional concrete strip type minimum dimension 600mm x 600mm thick and are not to be eccentrically loaded without further design work. Builder must check that footing type has been approved and no additional design work is required before pouring concrete. New walls to be built to ensure minimum 150mm toe to concrete footing each side.

STRUCTURE - CAVITY CONSTRUCTION - U-VALUE 0.18 W/m2k

Walls to be cavity construction throughout. Outer leaf to be of rendered blockwork to client's choice, inner leaf to be Plasmor Fibolite 3.6N/7.2N or similar blockwork.

All cavity work to be tied with ties at rate of 5 per m2, minimum spacing of 450mm vertically and 900mm horizontally and at every course at openings. Ensure continuity of insulation between cavity wall and rafters.

In order to comply with building regulations Part L, insulate cavity wall using one of the 4 options below.

- 125mm cavity insulated with 75mm Kingspan TW50 Or Celotex CW4000 mechanically fixed to internal blockwork to ensure 50mm air gap between insulation board and external skin. Insulate internally with 32.5mm Kingspan K118 or similar insulated plasterboard.
- 100mm cavity insulated with 100mm Dritherm 32. Insulate internally with 52.5mm Kingspan K118 or similar insulated plasterboard.
- 100mm cavity can be used insulated with 90mm Celotex Thermoalass Cavity Wall 21 or Kingspan K106 mechanically fixed to internal Plasmor Fibolite 3.6N/7.2N or similar blockwork strictly in accordance with manufacturer's requirements. Ensure 10mm air gap between insulation board and external skin.
- 150mm cavity fully insulated with 150mm Dritherm 32 or similar.

External return corners always to be a minimum of 665mm or alternatively where this cannot be achieved ensure a 330mm x 1000mm solid brick pier. Cavity only to be closed at openings with insulated closer. Ensure all new work is tied to existing using proprietary galvanised jointing system or by bonding into existing and ensure saw cut with dpc between where new cavity meets existing structure. Cavity below ground level to be filled with weak mix concrete to within 150mm of ground level and dpc to be provided to both leaves at min 150 mm above ground level linked to dpm/radon barrier with appropriate cavity tray and weep holes, if a timber floor is used then a cavity tray should be used over the airbrick liners. Ensure blocks used below ground level are trench blocks.

All new windows and doors to be of style and colour to clients choice. Windows and doors to meet current regulations for safety and thermal insulation i.e. max U value 1.4W/m2K. Therefore to be double glazed units (4mm) minimum 16mm air gap (argon filled) with low 'E' coating (e.g. Pilkington's K glass), ensure safety glass e.g. toughened is used to areas below 800mm and in all doors and glass panels adjacent doors and clearly marked to BS 6206. Ensure trickle ventilation of 8000mm2 is achieved and 1/20th floor area openings to habitable rooms and 4000mm2 to non-habitable rooms.

All habitable room windows should provide means of escape with a minimum opening area of 0.33m2 with a minimum opening width of 450mm and not be higher than 1100mm from finished floor level.

SUNDRY

Finish all walls and ceilings with 12.5mm plasterboard and skim finish and all necessary joinery items.

Provide thermostatic valves to any new radiators (system should be surveyed by qualified engineer to ascertain suitability for additional output). Provide new light fittings as energy efficient light fittings capable of only receiving low energy bulbs (LED's)

The client should be consulted reference socket outlets, lighting requirements and radiator positions in order to support new room layout and usage and also any exterior lighting as required. Allow for decorative exterior lighting to as required.

WCs to have 6 litre extract fan operated with light switch and with 15 minute over-run. Bathrooms and en-suites to have 15 litre fans and utility rooms to have 30 litre fan. Kitchen areas to have 60 litre extract fan or 30 litres if over a cooker. Sanitary ware to have deep seal traps and minimum 38mm upvc waste pipes.

Any boiler work is to be carried out by a GAS SAFE registered person to comply with Part J for all installation and flue outlet positions.

Installation of wood burning/multi fuel stoves should be carried out by HETAS registered personnel and properly commissioned and certified.

All internal stud walls to be minimum 75mm x 50mm timber framing with 12.5mm plasterboard (minimum mass 10kg/m²) each side with a minimum 50mm mineral wool insulation in the cavity.

It is recommended that at least 300mm of mineral wool is provided to the existing house loft space, in 2 layers of 150mm laid perpendicular to each other.

GROUND FLOOR - CONCRETE

The floor is to be a well compacted hardcore at least 150mm thick, followed by sand blinding then a 2000 gauge visqueen dpm/radon barrier linked to the dpc which should be taken across the cavity and a cavity tray with weep holes used to the whole perimeter.

Use 100mm Kingspan Kooltherm K103 Floorboard or similar insulation followed by a polythene separating layer and then 25mm perimeter edge insulation around concrete sub floor base 150mm thick.

Ensure sub floor ventilation is maintained to any existing timber floor using plastic pipe ducting.

ROOF - U-VALUE 0.15 W/m2k

Form new roof using a steel ridge beam supported by a steel square hollow section prop from steel beam and from RHS frame around window to form the glazed gable.

Use 150 x 50mm timber wall plate bolted to the top of the ridge beam with 150mm x 50mm C24 rafters at 450mm centres which should be doubled up to sides of velux windows. Fix noggins where possible between rafters at gable ends to hold straps to retain brickwork verge, straps to be fixed to noggins and turned down cavity two per end elevation.

Use a 100mm x 75mm timber wall plate bedded on cement:sand mortar on the inner leaf and held down with 30mm x 5mm x 1m long galvanized straps plugged and screwed to blockwork at a maximum of 2m centres. Ensure a good birds mouth cut to the rafters over the top and bottom wall plates and mechanical fixings.

Use 38mm x 25mm tanalised battens and a breathable felt such as Tyvek followed by roof tiles to match suitable for the pitch and exposure conditions.

Use a code 5 lead to form valley at intersection with existing garage roof and main house roof.

Use code 5 lead to form box gutter where roof will butt up against existing gable.

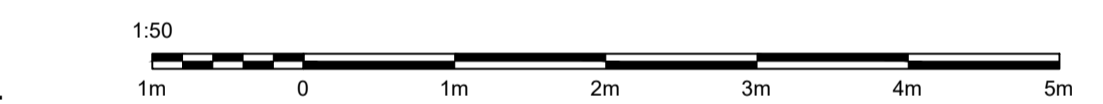
Insulate all rafters with 100mm Kingspan K107 Pitched Roof Board between the rafters fixed to warm side with 50mm ventilation void to cold side. Insulate across rafters with Kingspan K118 57.5mm rigid insulated plasterboard. Ensure continuity of insulation between cavity wall and rafters.

NOTE: INSULATION MUST BE KINGSPAN K107 AND K118 ANY OTHER FOR EXAMPLE CELOTEX XR4000 AND PL4050 WILL REQUIRE MORE INSULATION TO ACHIEVE REQUIRED 0.15 U-VALUE

Use pink fireline board around all steelwork followed by skim finish.

FIRE DETECTION

Provide mains wired interlinked smoke detection or heat detection with battery backup compliant with BS 5839-6 in all areas shown, marked (SA) or (HA)



DO NOT SCALE FROM DRAWING, ALL DIMENSIONS TO BE CHECKED ON SITE.

ANY STEELWORK SHOWN IS INDICATIVE AND SHOULD ALWAYS BE CONFIRMED WITH ENGINEER'S DETAILS.

IT IS IMPERATIVE THAT WE ARE INFORMED AT LEAST 4 WEEKS BEFORE BUILDING WORKS ARE DUE TO START ON SITE SO THAT WE CAN SUBMIT THE BUILDING CONTROL APPLICATION AND ENSURE THAT ALL NECESSARY DOCUMENTATION HAS BEEN PROVIDED

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PROPOSED GARAGE CONVERSION, FRONT PORCH, FORMATION OF NEW WINDOW AND DOOR OPENINGS, EXTERNAL LANDSCAPING AND INTERNAL ALTERATIONS

FOR MR AND MRS QUINN HILCRIST HOLLINBERRY LANE SHEFFIELD S35 7EL

DRAWING 3 OF 5 PROPOSED FLOOR PLANS

SCALE 1:50 AT A1 DATE: JANUARY 2024