Scale 1:50

0 1 2 3 4 5

UNVENTED NEW HIPPED PITCHED ROOF

Pitch 25° (imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)

To achieve U-value 0.15 W/m²K.

Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement R5 Structural Design.

Calculations to be based on BS EN 1995-1-1.

Roofing tiles to match existing on 25 x 38mm tanalised sw treated battens on breathable sarking felt to relevant BBA Certificate.

Supported on NORMAL/TOP JOISTING ONLY, 47 x 170mm grade C24 rafters at max 400mm centres max span 4.17m. Rafters supported on 100 x 50mm treated sw wall plates.

Allow min 20mm air space to allow for drape of breathable felt.

Insulation to be 130mm Celotex XR4000 between rafters and 50mm GA4000 under.

Fix 12.5mm foil backed plasterboard (joints staggered) to the underside of all ceilings using galvanized plasterboard nails.

Finish with 5mm skim coat of finishing plaster.

THIS STRUCTURAL DESIGN IS INDICATIVE - ENGINEERS DETAILS/CALCULATIONS ARE REQUIRED DO SPECIFY STRUCTURAL ELEMENTS FROM THIS SPEC.

RIDGE STEEL TO STRUCTURAL ENGINEERS DESIGN AND SPECIFICATION

STRUCTURAL ENGINEER TO DESIGN ALL STRUCTURAL ASPECTS OF ROOF. CONTRACTOR TO COST AND PRESENT TO CLIENT.
DOTTED LINES BELOW SHOW OPTIONAL CEILING HEIGHTS

VAULTED CEILING SHOWN CLIENT TO ADVISE IF ROOF LIGHTS REQUIRED. CONSULT SGARCH IF REQUESTED FOR AN UNDERSTANDING WHETHER IT WOULD IMPACT PLANNING

All structural elements; steel beams, columns, posts, lintels, posts, bearings, padstones and any other load bearing elements to be confirmed with a structural engineer before works commence on site. Any clashed to be brought to SG architecturals attention

VAULTED CEILING SHOWN CLIENT TO ADVISE IF ROOF LIGHTS REQUIRED. CONSULT SGARCH IF REQUESTED FOR AN UNDERSTANDING WHETHER IT WOULD IMPACT PLANNING

EXISTING EAVES + 04.687

150

278

1538

300

150mm Code 4 Lead Flashing

Install low energy light fittings that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt and a total output greater than 400 lamp lumens. Not less than three energy efficient light fittings per four of all the light fittings in the main dwelling spaces to comply with Part L of the Building Regulations and the Domestic Building Services Compliance Guide.

All structural elements; steel beams, columns, posts, lintels, posts, bearings, padstones and any other load bearing elements to be confirmed with a structural engineer before works commence on site. Any clashed to be brought to SG architecturals attention

SEE SPECIFICATION FOR INTERMEDIATE FLOOR BUILD UP BETWEEN GARAGE AND BEDROOM. ENSURE MIN 30MIN FIRE PROTECTION BETWEEN GARAGE AND BEDROOM

Bedroom

Bedroom

EXISTING LINTEL TO BE EXPOSED AND ASSESSED BY STRUCTURAL ENGINEER TO CHECK SUITABILITY

EXISTING WALL PLATE TO BE EXPOSED AND CHECKED TO ASCERTAIN LOCATION. EXTRA COURSES OF MASONRY AND NEW WALL PLATE MAY BE REQUIRED

150

278

150mm Code 4 Lead Flashing

100

EXISTING FIRST FFL + 02.620

EXISTING GF CEILING + 02.380

Existing IFL: 61.69m

Existing IFL: 61.69m

Existing Ceiling Ht: 2.38

NEW SVP REQUIRED AGR BATHROOM WASTE

YALLOW PROFILE TRAPPLAS 110mm

Clear Translucent 950 roof Corrugated Sheet

EXISTING FIRST FFL + 02.620

EXISTING GF CEILING + 02.380

1001

2006

2190

1900

1613

160

PITCHED ROOF INSULATION AT CEILING LEVEL

Pitch17-45° (imposed load max 0.75 kN/m² - dead load max 0.75 kN/m²)
To achieve U value of 0.15 W/m²K
Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement R5 Structural Design. Calculations to be based on BS EN 1995-1-1. Roofing tiles to match existing on 25 x 38mm tanalised sw treated battens on sarking felt supported on 47 x 100mm grade C24 rafters at max 400mm centres max span 2.12m. Rafters supported on 100 x 50mm treated sw wall plates. Insulation at ceiling level to be two layers of Earthwool insulation to total 300mm laid between over joists (cross direction).

Construct ceiling using sw joists at 400mm centres, finished internally with 12.5mm plasterboard on cross battens if req. to match existing ceiling level and min 3mm thistle multi-finish plaster. Provide polythene vapour barrier between insulation and plasterboard. 90mm min. airspot provide all of above however finish ceiling with 2 x 15mm Fireline Board to provide adequate fire protection

Provide opening at eaves level at least equal to continuous strip 25mm wide on two opposite sides to promote cross-ventilation. Mono pitched roofs to have ridge/high level ventilation equivalent to a 5mm gap via proprietary tile vents spaced in accordance with manufacturer's details.
Cold water tank to be insulated 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.

THIS STRUCTURAL DESIGN IS INDICATIVE - ENGINEERS DETAILS/CALCULATIONS ARE REQUIRED DO SPECIFY STRUCTURAL ELEMENTS FROM THIS SPEC.

STUD WALL BETWEEN HOUSE AND GARAGE

To achieve minimum U Value of 0.18 W/m²K
Construct stud wall using 100mm x 50mm head and sole plates and vertical studs (with nogging) at 400mm ctrs or to sylengineer's details and calculations.

Insulation to be 90mm Celotex GA4000 between studs with 50mm Celotex GA4000 over. Provide VCL and 12mm Promat rlasterboard to outerface to provide 30min fire protection.

Board internally with 12.5mm moisture resistant fireline board over VCL and finish with 3mm plaster skim

All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally.

Note: These walls need to go full height and be fire stopped against the roof or floor above. A lesser provision of insulation may be appropriate where meeting such a standard would result in a reduction of more than 5% in the internal floor area of the room.

Ensure that the perimeter insulation isolating the screed has a minimum thermal resistance of 0.88m²K/W and is at least 20mm thick to prevent heat loss. Provide 1200 gauge DPM to also overlap the wall insulation, with a minimum of 150mm from the bottom of the wall insulation to top of insulation upstand

*Celotex XR4000 or comparative product only 0.022 W/m2K/W

2240

2100

40mm Screwed with nom. 10mm finish

VISQUEEN VCL OVER INSULATION LAPPED AND SEALED AT EDGES

DPM / RADON MEMBRANE LAPPED AND SEALED AT EDGES FOR RADON PROTECTION OVER SAND BLINDING TO ACHIEVE LEVEL SURFACE

UTILITY

PANTRY

65mm Screwed with wet underfloor heating

VISQUEEN VCL OVER INSULATION LAPPED AND SEALED AT EDGES

DPM / RADON MEMBRANE LAPPED AND SEALED AT EDGES FOR RADON PROTECTION

NOM 100MM CONCRETE SLAB TO ENGINEERS DESIGN

MATCH EXISTING IFL

EXISTING FFL + 00.000

59.00

186

150

Proposed IFL: 59.28m

Existing IFL: 59.07m

UPGRADING EXISTING SOLID FLOOR
To meet min U value required of 0.25 W/m²K
The existing solid floor slab must be checked for stability and be free from defects as necessary before the new floor finish is applied. Provide 1200 gauge polythene DPM or dpc damp protection and to prevent heat loss. Provide 1200 gauge polythene DPM or 3 coats RIW over existing concrete slab (if required). DPM to be lapped in with DPC in walls. Floor to be insulated over slab and DPM with min 70mm thick Celotex GA4000, 25mm Celotex insulation to continue around floor perimeters to avoid thermal bridging.

A VCL should be laid over the insulation boards and turned up 150mm at room perimeters behind the skirting, all joints to be lapped 150mm and sealed. Finish with 65mm sand/cement finishing screed with light mesh reinforcement. Care should be taken to ensure any existing airbricks for the main house are not obstructed by this work. If so, they should be extended through the new floor to external air. Where drain runs pass under floor provide A142 mesh 1.0m wide and min 50mm concrete cover over length of drain.

A lesser provision may be appropriate where meeting such a standard would create significant problems in relation to adjoining floor level.

CONTRACTOR TO ASSESS WHETHER EXISTING GROUND FLOOR HAS A VOID AND AIR BRICKS ARE PRESENT. IF SO CONTACT SG ARCHITECTURE FOR ALTERNATIVE FLOOR BUILD UP

SOLID FLOOR INSULATION OVER SLAB

Solid ground floor to consist of 150mm consolidated well-rammed hardcore. Blinded with 50mm sand blinding.

Provide 100mm ST2 or Gen2 ground bearing slab concrete mix to conform to BS 8500-2 over a 1200 gauge polythene DPM. DPM to be lapped in with DPC in walls.

Floor to be insulated over slab and DPM with min 150mm thick Celotex GA4000 insulation.

EXTENSION IS OVERGLAZED SO THE THICKER INSULATION IS TO OFFSET ANY REQUIREMENTS.

25mm insulation to continue around floor perimeters to avoid thermal bridging. A VCL should be laid over the insulation boards and turned up 150mm at room perimeters behind the skirting, all joints to be lapped 150mm and sealed. Finish with 65mm sand/cement finishing screed with WET UNDERFLOOR HEATING IF REQ and light mesh reinforcement.

Where drain runs pass under new floor, provide A142 mesh 1.0m wide and min 50mm concrete cover over length of drain.

Where existing suspended timber floor air bricks are covered by new extension, ensure cross-ventilation is maintained by connecting to 100mm dia UPVC pipes with 100mm concrete cover laid under the extension. Pipes to terminate at new 65mm x 215mm air bricks with cavity tray over.

450

675

600 wide C25/30 trench fill foundations

Foundation to penetrate minimum 200mm into suitable bearing stratum (assumed to be non-plastic sand with ABP > 125kN/m²)

FOR EXISTING PURPOSES NOMINAL 100X38X10 SHS WITH GALVANISED PLATE WELDED TO UZ TO ACT AS LINTEL DUE TO LOW RAFTER PITCH. ENGINEER TO CONFIRM SPECIFICATION

All glazing in critical locations to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations, i.e. within 1500mm above floor level in doors and side panels, within 800mm above glazing and within 800mm above floor level in windows.

glazing Specification accordance with SAP calculations, For cooling purposes all new double glazed units to exceed Part L guidance with a U-value of 1.2 W/m2K.

HIGHEST ORIGINAL GROUND LEVEL ADJACENT TO PROPERTY IS USED FOR ALL FINAL ROOF MEASUREMENTS THIS MUST BE CONSTRUCTED TO AS TO ENSURE THE MAXIMUM CEILING LEVELS WHILST COMPLYING FOR PERMITTED DEVELOPMENT - SW

EXISTING FFL + 00.000

DPC - 0 CRS

VARIATIONS TO DRAINAGE ARE REQUIRED - ENSURE A CONTINGENCY IS APPLIED TO ANY QUOTATION FOR UNFORESEEN WORKS WITH WATER SUPPLIES / GAS / OR DRAINAGE

FULL EXPOSURE OF DRAINAGE AND INVESTIGATIONS MUST BE COVERED BY OTHERS AND IS NOT THE RESPONSIBILITY OF SGAD

100 CRS
90 CRS
80 CRS
70 CRS
60 CRS
50 CRS
40 CRS
30 CRS
20 CRS
10 CRS

Datum: 55.00m.
Section A-A.

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13 - PROPOSED SECTION - A2 - 1-50

SG PROJECT NO.	PAPER SIZE	DRAWN BY
402	A2	SG

REVISION: PLANNING

SCALES: 1:50

Drawing measurements shall not be obtained by scaling. Verify all dimensions prior to construction. Immediately report any discrepancies on this document to SG ARCHITECTURAL DESIGN.

REV.	DESCRIPTION	DATE	BY	CHK'D