Whether or not indicated on the drawing:-

All workmanship and materials shall comply with current Building Regulations, British Standards, Codes of Practice, NHBC and Employers requirements. All materials shall be fixed, applied or mixed in accordance with Manufacturers' Instructions or Specifications. Any discrepancy shall be immediately reported to us and resolved prior to work commencing. The contractor shall take into account everything necessary for the proper execution of the works, to the satisfaction of the "Inspector" whether or not indicated on the drawing.

Subject to confirmation of the Project Designer - similar "approved" materials of equal performance may be substituted where those specified are not available.

On commencement of work on site or Building Regulations approval, whichever happens first, Swift Building Design is resigned from the role of Lead Designer which then falls to the client or principle contractor.

LEVEL APPROACH:
Level approach to have a firm and even surface 900mm minimum width and a maximum permitted gradient of 1 in 20, cross fall to level approach to be 1 in 40 maximum.

FOUNDATIONS & SUBSTRUCTURE:
All constructed to Consulting Engineer's design and to NHBC/Local Authority approval. Pile setting out, load test result, integrity test results, calcs and any other information required by Building Control to be provided by sub-contractor.
Hanson Thermalite Hi Strength trenchblock as specified by Structural Engineer cavity construction (Subject to finished external levels). Compressive strength up to DPC to engineers details. Above cavity construction to commence as per 04.00
Where soil sulphate exceeds design sulphate DS4 alternative blocks will need to be specified.
Mortar to be designation (iii) 1:31/2 Masonry cement: sand to BS 5628:Part 3 as directed by the Structural Engineer to suit loading and ground conditions. Sulphate resisting cement should be used where ground conditions dictate and where specified by the structural engineer. Additional blockwork to be constructed to allow for plinth superstructure where applicable.
The construction of Thermalite block walls should be carried out in accordance with BS:5628: Parts 1 & 3, BS:5250 and BS:8000, as well as the information contained in British Board of Agreement certificate 00/3720. Walls to be constructed to BS:6073 generally.
NOTE: Wall strength never to be less than the strength of the wall over.
Pre-cast concrete lintels. Refer to sub-structure drawings for locations of drainage and incoming service positions.
DPC to be positioned at least 150mm above finished ground or pavement level. Horizontal DPC's should be impermeable and should be either lapped (at least 100mm) or welded, where appropriate, and, in all cases, lapped with the DPM. DPC to be stepped locally adjacent to level thresholds with extended periscope airbricks to achieve min. 150mm above finished ground/pavement level. Where double damping is required refer to Architects details.

BELOW GROUND DRAINAGE:
Any new underground drainage to be in 100 dia upvc pipes laid a min 1:40 with 'pea' gravel bed and surround. Drain passing under building should be flexible jointed - provide 75xl00 reinforced concrete lintels over drains where passing through walls and 9mm Masterboard collars each side of wall to prevent vermin entry. All new gullies to be trapped and access chambers provided at changes of direction. Any existing drains passing under new build to be exposed for BCO inspection and then encased in min 150mm concrete.
Any new manholes to be proprietary GRP or 600x450 medium duty airtight covers on 225mm thick engineering brickwork built of 150mm concrete base. SEE CONSULTANT ENGINEERS DRAWINGS WHEN APPLICABLE. All new surface water drains to a soak away minimum 5m from dwelling subject to percolation test and suitability. All to entire satisfaction of Building Control.

ABOVE GROUND DRAINAGE:
Gutters to be min 100 hr. upvc. 65 dia r.w.p. Extended 100 dia s/vp externally with new bathroom waste pipes bossed onto stack. New s/vp to terminate min 900 above nearest opening window and be fitted with a bird-proof terminal.
Bath, & shower wastes to be min 40mm dia., Basin wastes to be 32mm dia. Common wastes to be min 50mm dia.
All appliances on single stack system to be fitted with 75 deep seal traps.

DAMP PROOF COURSES:
Horizontal DPC to BS 743 to all new walls at 150mm minimum above adjacent external finished surface levels and stepped with the external finished surface levels as required.
The DPC product is to be compatible with the tanking membrane and cavity trays used.

GROUND FLOOR:
75mm Truflow or similar approved self leveling screed and Myson underfloor heating on visqueen 1200g dpm. 120mm Kingspan K3 under new floor with 25mm Kingspan turned up round perimeter. Max U value O.13W/m.sq.K. All on min. 100mm in-situ concrete floor slab on dpm. 25mm sand blinding on 150mm crusher run hardcore compacted to refusal.
FLOOR TO CONSULTING ENGINEERS DETAIL/SPECIALIST DETAIL.ALTERNATIVE FLOOR TO SPECIALIST DETAIL IF REQUIRED.

WALLS:
25mm Render finish on 100mm dense concrete blockwork with 100mm cavity fully filled with 100mm Dritherm insulation. 100mm Celcon Standard blocks internal leaf with 2 coat lightweight plaster finish, Max U value O.28W/m.sq.K. Cavity wall ties to be stainless steel to DD 140-2, spaced at a max 750 horizontal and 450 vertical and every blockwork course at door and window openings. Proprietary insulated Catnic lintels over all openings. Insulated vertical and horizontal d.p.c's to new cavity closures or Thermabate type proprietary cavity closers. d.p.c. in external wall to be a min. 150 above finished ground level. NOTE: When required all the lintels over the existing ground floor windows to be checked for suitability to sustain the additional loading - if found not suitable change for insulated combined steel lintels by Catnic or similar.

MOVEMENT PROVISION:
Movement joints, where applicable, to be provided in accordance with BS 5628: Part 3: 1985 - Clause 20. See Consultant Structural Engineers details.

LINTELS:
Provide suitable proprietary insulated steel lintels with no continuous base plate over all external openings where possible.
Provide pre-cast reinforced concrete or steel lintels over all openings in internal load bearing and masonry non load bearing walls.
All lintels to have minimum end bearings of 150mm or as specified by the manufacturer,
See Consultant Structural Engineers details.
All steel lintels to be encased internally to give half-hour fire resistance.
Soffits of steel lintels with non perforated base plates and precast concrete lintels when used in the external walls are to be finished with 22.5mm thick Kingspan K18 insulated plasterboard in accordance with the Robust Details for Limiting Thermal Bridging and Air Leakage. (Ensure this does not interfere with the trickle vents to doors and windows). All lintels in external walls to have appropriate cavity tray dpc's and weepholes over.

INTERNAL PARTITIONS:
Partition walls to be 50x63sw framing with Rockwool sound insulating quilt infill, 12.5 Soundbloc or similar (10kg) and skim both sides.

EXTERNAL DOORS:
All external doors to meet requirements of BS PAS 24:2012 or similar approved standard. Letter plates and location will meet Door & Hardware Federation (DHF) technical specification TS 008:2012.
All external doors shall have a maximum U-value of 1.3 W/m2K.
The front entrance door to houses shall be GRP or metal faced insulated doors of a style indicated on the approved planning elevations, incorporate a weatherproof letter plate, spyhole door viewer and a door chain. 3-point locking system and have a level threshold in accordance with Approved Document M.
The doorset must be certified compliant with BS PAS 24:2007.
All glazed panels must include one pane of 6.4mm laminated glass.
The letter plate aperture must be more than 400mm from door locks and chains.
An internal deflector must be fitted over the letter plate.
Entry via the main access door must be by key only.
Cylinders must be certificated to BS EN1303, grade 5 key security and grade O drill attack resistance.

INTERNAL DOORS:
An undercut of minimum area 7600mm² to be provided to all internal doors (including fire doors) above the floor finish. This is to be provided by an undercut of 10mm where the floor finish is provided at completion or an undercut of 20mm where no floor finish is provided at completion.

ROOF:
Redland Cambrian or similar approved interlocking tiles on 25x50 preservative treated battens on breathable felt on prefabricated roof trusses at 600 ctrs and braced in installed to manufacturer's instructions accordance with BS5268 and manufacturers detail. PV panels or Solar Thermal panels to be clearly indicated on plans and suitable provision to be made for static and dynamic loads for apparatus within truss designs. Roof to be strapped to wall where parallel at rafter and ceiling level with noggins at max 1.8m ctrs with 38x5 galv. ms BAT straps. 225x25sw grp lined valley boards when required. Min 50x75 wall plate strapped down by 38x5mm galv ms BAT straps at max 1.8m ctrs. All BAT straps to be taken down inside face of wall 1m minimum and secured. 400 Knauf Earthwool Loft Roll quilt between the ceiling joists and cross laid. 12.5 plasterboard and skim to ceiling fixed through vapour control layer - Max U value O.11W/m.sq.K. Insulation to be taken tight up to proprietary eaves ventilator and made continuous with top of cavity wall insulation. Provide a continuous 25 gap behind the fascia, incl. a mesh fly screen, for cross ventilation.

FLAT ROOF:
Sika Trocal single ply flat roofing finish or GRP on 18mm ply decking on sw firrings min. 38mm cut to falls of 1:80 on flat topped trusses.

ACCESS HATCH TO COLD ROOF VOIDS OVER ACCOMMODATION:
Provide proprietary draught sealed roof access hatches within the walls forming the accommodation. Positions to be determined by client.
Provide a secure stable platform adjacent loft access within roof void on spacers to avoid compressing the insulation.

VENTILATION:
Rapid ventilation to each room to equal 1/20th of floor area - background ventilation min. 8000rnm.sq.
Cooker hood to kitchen to be able to extract minimum of 60litires/sec. Utility room extracts to be 30litres/sec.
Family bathroom with window to have mechanical ventilation - 15litres/sec. extractor fan to be worked independent of light switches.
En-suite without a window to have a ceiling mounted extract fan ducted to external air at a rate of 15 litres/sec worked from the light switch with a min 15 minute over-run once the light is switched off Ensure a min 12mm gap under the door. Min 15mm gap under doors.

WINDOWS:
All in UPVC or painted softwood frames with proprietary cavity closer's. All glazing to windows within 800mm of finished floor level, and to side lights or windows both within 300mm of a door opening and 1500mm of finished floor level to be either laminated or safety glazing or toughened glass. Small panes (max width 250mm and not exceeding 0.5m2) to be 6mm minimum thickness annealed glass when fitted to doors. All glazing to situations described to be to BS:6206:1981. All glazing to have minimum U value of 1.3 W/msqK, unless stated otherwise with 16mm air gap argon filled with "soft" low-E coating.
Bedroom windows to incorporate opening lights for emergency egress - O.33m.sq. Min clear opening size 450 x 750. Max 1100mm above ffl.
Windows to be designed and installed to comply with PAS 24:2012.
Bathroom, Ensuite and WC windows to be obscure glazed.
All opening windows on the first floor are to be fitted with 'easy clean' hinges, incorporating restrictor stays, to allow for windows to be cleaned from inside the building and for means of escape where required.

SMOKE DETECTION:
Self contained and interlinked mains operated smoke detectors in the position indicated on plan. The detectors must be fitted with a 9v. battery back-up. (this to be checked and confirmed on site)

BOILER:
Global Energy Systems Eco Air boiler to be fitted outsite in accordance with manufacturers specifications by approved installer. Heating system to be vented. Provide room thermostat located in hallway as indicated on floor plans. Ground floor and first floor to have radiators. Provide thermostatic radiator valves to all radiators (except where thermostat), to assist in controlling the space heating.

SPACE HEATING SYSTEM CONTROLS:
The requirements will be met by the provision of the following controls:-

ZONE CONTROLS:
The control devices can be room thermostats and/or thermostatic radiator valves or any other suitable temperature sensing devices. Most two storey dwellings would be based on a two zone control system.

TIMING CONTROLS:
Timing devices should be provided to control the periods when the heating systems operate. This provision should be made for gas fired systems and for systems where forced-draught fans operate when heat is required.

BOILER CONTROL INTERLOCKS:
Heat pump hot water central heating system controls should switch off the boiler when no heat is required whether control is by room thermostats or by thermostatic radiator valves.
a) Systems controlled by thermostats should fire only when a space heating or cylinder thermostat is calling for heat.
b) Systems controlled by thermostatic radiator valves should be fitted with flow control or other devices to prevent unnecessary boiler cycling.

HOT WATER STORAGE SYSTEM CONTROLS:
Any new hot water storage and supply systems should be designed and installed in accordance BS EN 806 Parts 1-5 and BS 8558. Good workmanship is essential and should be in accordance with BS 8000 Parts 0 and 15.
The requirements will be met if:-
a) The heat exchanger in the storage vessel has sufficient heating capacity for effective control; a way of satisfying this requirement would be to provide vessel complying with BS1566 or BS3198 or equivalent, and in particular with the requirements for the surface areas and pipe diameters of heat exchangers given in these Standards.
b) A thermostat is to be provided which shuts off the supply of heat when the storage temperature is reached, and which in the case of a hot water central heating system is interconnected with the room thermostat(s) to switch off the boiler when no heat is required.
c) A timer is to be provided either as part of the central heating system or as a local device which enables the supply of heat to be shut off for the periods when water heating is not required.

PLUMBING:
The water supply temperature to a fixed bath should not exceed a maximum of 48oC by use of an inline blending valve or other appropriate temperature control device.
The estimate water consumption of wholesome water in a new dwelling should not exceed 125 litres/head/day.

ELECTRICAL INSTALLATIONS:
All installations to comply with IEE regulations. All fittings to comply with British Standards. Quantity, quality and position of fittings in accordance with NHBC. requirements and Employers Requirements. All electrical work required to meet the requirements of Part P (Electrical Safety) will be designed, installed, inspected and tested by a person competent to do so.
Prior to completion the Local Authority must be satisfied that either:
An electrical installation certificate issued under a Competent Person Scheme has been issued: or
Appropriate certificates and forms defined in BS7671 (as amended) have been submitted that confirm that the work has been inspected and tested by a competent person. A competent person will have a sound knowledge and experience relevant to the nature of the work undertaken and to the technical standards set down in BS7671, be fully versed in the inspection and testing procedures contained in the regulations and employ adequate testing equipment.
In accordance with Part M of the Building Regulations all switches and sockets to be positioned between 450mm and 1200mm from floor level. Consumer units to be positioned between 1350mm and 1450mm from floor level.

SERVICES.
All work and installations to comply with the regulations and recommendations of the respective "BOARD" or "AUTHORITY" to the satisfaction of the "Inspector". Meter cupboards to comply with Appendix G of Approved Document B.
On new buildings provision to be made for physical infrastructure in connection with high speed communications networks.

LIGHTING:
Internal lighting scheme to include designated low energy lights for minimum 75% of all fittings. Fluorescent lamps with high frequency electronic ballasts to be used in garages, workshops and other rooms where there may be danger of stroboscopic interaction with engine/motor parts.

THERMAL BRIDGING AND AIR LEAKAGE:
Thermal bridging and Air leakage to be limited by compliance with Robust Construction Details for dwellings and similar buildings.
Provide Air leakage Measures designed to reduce air leakage from the building.
Air tightness measures will depend on the form of construction and level of workmanship.
The objective being to form a definable, continuous air leakage barrier around the dwelling.
Ways of preventing air leakage to be considered at every penetration of this barrier.
Particular care on site should be paid to:
1) Joints between structural components e.g. wall to floors, walls to roofs.
2) Joints around components and opening within walls.
3) Services penetrations - plumbing, electrical, and ventilation.
In General:
Cavity insulation and wall insulation must meet at top of wall while retaining ventilation to roof.
Cavity wall insulation must be taken up full height of all gables.
Floor joists must be sealed with expanding foam where built into external walls.
All cavity closures to be insulated.
Close any vertical ducts at top and bottom (e.g. boxing in to SVP's).
Seal any service penetrations.
Select the appropriate sealant or gap filler for the size of gap and degree of movement anticipated.
Seal under skirting boards with flexible acoustic sealant.
Accredited details to be adopted for all construction junction details.

HEALTH AND SAFETY
Cleaning of Windows and Gutters
Windows to be cleaned via a proprietary pole system when they can not safely be reached from ground or terrace levels.
Provide leaf grids to all external gutters permanently fixed in accordance with manufacturers details and specification.
Provide a permanently fixed leaf guard to all rain water outlets to prevent outlets becoming blocked.
Cleaning leaves and debris from the leaf grids on the gutters is to be carried out from ground level utilising a pole system.
Access to flat roofs for maintenance purposes to be via a cherry picker.
Access for maintenance to areas of pitched roof to roof penetrations to be via a cherry picker and appropriately fixed 'cat' ladders. Provide a mansafe type hook on system to lift shaft wall where it projects through roof.

AIR TIGHTNESS TESTING:
All sites registered for Building Regulations under AD Part L 2010 will require all plots to be individually air tested. All sites registered pre-AD Part L 2010 to refer to Building Regulation conditional approval for Air Testing
APR requirements - all SAPs to be calculated to APR of 5.01. Testing results to achieve between 3.01 and 5.00

MENU OF SITE BASED OPERATIONS FOR ENSURING HIGH PERFORMANCE AIR LEAKAGE TEST RESULTS
Continuous ribbon of adhesive to be applied behind all dry lining perimeters of external walls including around door/window openings, around electrical socket and switch outlets, and vertical studs where necessary.
Skirtings to have a continuous bead of silicone sealant applied to underside.
All timber 'I' joists are to be finished into bearing walls using timber blocking to each side of web and silicone mastic filler applied to all edges. Alternatively TJ Energy Stop End caps, or similar, to be used with all gaps sealed with mortar to manufacturers recommendations.
Top and bottom of soil and vent pipe boxings to be closed off and sealed.
Kitchens and bathrooms/en-suites etc., are to be fully finished with dry lining and filled at floor/wall junction before commencing fitting of vanity/kitchen units/appliances etc.
Damage to walls while fitting the above must be kept to a minimum and made good/sealed afterwards.
All service entry positions are to be fully sealed and areas under baths/kitchen units etc. must be inspected before sealing up with finishing panels etc. Services are to include gas, electric and incoming water entry positions.
All waste pipes/plumbing pipes carried through external walls or into stud walls internally are to be fully finished off and sealed. All holes must be kept to the minimum size required. MECHANICAL Extractor fans are to have the complete housing perimeter sealed to the wall finish. The opening through the external wall is to be made good and sealed using silicone mastic beads.
Loft hatches are to have the complete frame perimeter sealed to the ceiling finish.
Window frames are to be sealed with silicone sealant externally. Joint between cavity closer and blockwork to be sealed with expanding foam prior to dry lining.
Radiator feeds are to be taken through the "radiator pipe guide and seal box" by Manthorpe, or similar, behind the radiator. Dry liners to ensure that plasterboard is tight to gasket around triangular fitting.
Boiler flues where passing through external wall are to be sealed using gasket provided by boiler manufacturer.

CDM Regulations

This risk assessment relates to construction working drawings only.

The project is a 2 storey dwelling and the majority of hazards are normal for this project.

SPECIFICATION

A	05/05/21	Flat roof spec added

Swift
www.SWIFT BUILDING DESIGN.co.uk
104 Mossy Lea Road
Wrightington
Wigan
Lancashire
WN6 9RD T:07966 406501 E:chris@swiftbuildingdesign.co.uk

Project
Proposed Dwelling, Land to East of 8 Lydiate Lane, Leyland, Lancashire PR25 5SA

Drawn	Date	Scales @ A1	Drawing No. 4 of 4
CJW	04/21	NTS	189/WD/04/A