- do not scale dimensions from this drawing
- all dimensions to be checked on-site and discrepancies to be reported to the architects

ALL ARCHITECTS DRAWINGS MUST BE READ IN CONJUNCTION WITH ALL STRUCTURAL ENGINEER'S DETAILS AND CALCS.
THE BUILDING IS TO BE BUILT USING ACCREDITED CONSTRUCTED DETAILS WHICH ARE DESIGNED TO LIMIT HEAT LOSSES THROUGH THERMAL BRIDGING AND AIR INFILTRATION CONFORMING TO CONSTRUCTION DETAILS THAT ENSURE CONTINUITY OF INSULATION AND LIMIT AIR LEAKAGE. REFER TO SEPARATE DETAILS.

FOUNDATIONS
Concrete strip foundations - refer to Structural engineer's drawings and calculations for details.

BASEMENT FLOOR
75mm thick sand/cement floor screed, P/A = 0.43, 500 gauge polythene separating layer, 150mm thick KINGSPAN GG300 rigid extruded polystyrene insulation, 400mm thick concrete reinforced floor slab, 1200 gauge polythene DPM, 200mm (min) sandblinded well consolidated crushed stone hardcore.
To achieve a minimum 'U' value of 0.17 W/m²K

Waterproofing to basement walls and floor to comprise Type A and Type C waterproofing systems to BS8102:2009.

Bituthene 8000 *membrane* fitted to outside face of wall with proprietary sheet drainage membrane protection. ***Preprufe 300R Plus LT*** membrane to underside of floor slab lapped with ***Bituthene 800*** in accordance with manufacturer's details. ***Pudlo Drybase tanking slurry*** to inside face of wall with ***Sika Combiflex*** adhesive at intersection of wall and floor.
Preprufe 300R Plus LT membrane lapped up into cavity with cavity tray DPC set minimum 150mm above external ground level.

GROUND FLOOR (over Basement)
75mm thick sand/cement floor screed 500 gauge polythene separating layer on 150mm deep BISON Hollow Core PCC Units (See Structural Engineers details), underlined at Basement level with either GYPROC FireLine 15mm or Gyproc FireLine MR 15mm plasterboard on a metal framed ceiling system with minimum 50mm gap from u/side of conc units.

GROUND FLOOR (to Lounge & Games Room)
75mm thick sand/cement floor screed on 500 gauge polythene separating layer 165mm thick CELOTEX XR4000 polyisocyanurate insulation on loose laid RIW DPM Blue membrane (to act as Radon Barrier) installed in accordance with manufacturer's recommendations and linked to propietary cavity tray DPC at perimters instructions on 300mm thick reinforced concrete raft foundation.
To achieve a minimum 'U' value of 0.11 W/m²K

HORIZONTAL DPC
Continuous felt cavity tray DPC set a min.150mm above external finished ground level. PROTECH GM SUPER starter band overlapped and taped with gas membrane and running across cavity and under DPC to inner leaf.

FIRST FLOOR
22mm thick chipboard deck on 65 x 195mm GR C24 joists at max. 400mm centres
(See Structural Engineers details), underlined with either Gyproc FireLine 15mm or Gyproc FireLine MR 15mm plasterboard in Kitchens and Bathrooms.

BASEMENT WALLS
Outer Leaf: Fibre Protection Board over KINGSPAN GREENGUARD rigid insulation over 400mm thick reinforced concrete wall (TBC by S.E.), 25mm cavity then 70mm Metal 'C' studs @600mm centres with 60mm thick KINGSPAN K112 frame board between studs finished with 12.5mm plasterboard with skim finish.
To achieve a minimum 'U' value of 0.12 W/m²K

BASEMENT WATERPROOFING
Waterproofing to be applied in accordance with manufacturer's recommendations and to comprise BITUTHENE 8000 to external face of external basement wall. Wall to receive PUDLO DRYBASE TANKING SLURRY to face and 100mm thick blockwork internal finish.
PREPRUFE 300R PLUS LT MEMBRANE to underside of basement floor slab.
All work to be completed by approved contractor in compliance with relevant British Standards.

WALLS ABOVE DPC
Outer Leaf; 102mm thick facing Brickwork with 150mm wide cavity with appropriate cavity ties with inner leaf of 100mm thick medium density blockwork. 140mm thick CELOTEX THERMACLASS CAVITY WALL 21 polystyrene insulation board within cavity. Internal leaf finished with 12.5mm plasterboard on dabs with skim finish.
Note:- Insulation to be installed strictly in accordance with manufacturer's recommendation in relation to installation, extent and fixing.
To achieve a minimum 'U' value of 0.14 W/m²K

All masonry work to comply with BS 5628; P3, Mortar selection of mortar used below DPC to be in accordance with BS5628: Part 3. Sulphate-resisting cement to be used where recommended by brick manufacturer and where sulphate's are present in the ground.

CAVITY CLOSERS
Cavity closed around windows & door openings with THERMABATE or similar insulated vertical DPC. Cavity closed at eaves and verge with ROCKWOOL Cavity Barrier. Cavity to be closed at eaves & verge and vertically at intersection of party walls & external walls with proprietary polythene wrapped mineral wool cavity barrier.

INTERNAL WALLS
Non-Load Bearing
89mm x 50mm timber studs at 600mm centres, horizontal noggins at 1200mm centres vertically with 12.5mm thick plasterboard with a density of 10kg/m² and skim to both faces. 80mm thick glassfibre quilt insulation between studding. Sole plate to sit on top of screed. GYPROC Moisture Resistant plasterboard to be used in kitchens and bathrooms. Softwood boarding should be at least 20mm thick with a suitable preservative.

Loadbearing
100mm thick medium density blockwork with 9.5mm thick plasterboard (with skim finish) to both faces.

OPENINGS IN EXTERNAL WALLS
Galvanised steel cavity wall lintels or similar (with cavity tray where applicable) to BS.2989 (Refer to STRUCTURAL ENGINEER'S details), to have 150mm end bearings and min. 12.5mm plasterboard and skim finish to give ½ hour fire protection. Lintel voids to be insulated in accordance with manufacturer's instructions. Stop ends to be provided to all cavity trays including lintels where cavity tray is combined. Weepholes to be provided above all lintels and cavity tray DPC's. Lintel built into brickwork and clipped to timber frame at 600mm centres. Openings in timber frame to be in accordance with manufacturers instructions and must be integral with wall lintels.

INTERNAL DOORS
Doors to ground floor habitable rooms and toilet to be 838mm wide (clear width between door in 90 degree open position and frame to be 750mm).
FD30 indicates half hour fire resistant door and frame without smoke seal.

WINDOWS AND DOORS

Windows To achieve a minimum 'U' value of 1.4 W/m²K - Frame colour TBC.

External Doors To achieve a minimum 'U' value of 1.2 W/m²K - Proprietary composite doors, openable from the inside without the use of a key. Door to have a chain OR limiter for 'PART Q' Security. External colour TBC.

Rooflight to achieve a minimium 'U' value of 1.2 W/m²K

Glazing Specification
PVCu windows and composite steel insulated doors fitted in accordance with manufacturer's instructions. Gun applied mastic pointing to BS.254 to provide seal between frames and brickwork. Double glazing and draught stripping throughout. All glazing in accordance with BS.6206:1981
The following areas to be safety glass in accordance with PART 'K' BUILDING REGULATIONS 2010 DOCUMENT:
i) All glazing within 800mm of FFL
ii) Glazing in an around doors between FFL and 1500mm, and side panels within 300mm of doors.

Opening casement to windows as indicated. Opening restrictors fitted to Bedroom/Study windows ONLY with maximum 250mm opening at 30 degrees.

Note where cill heights to windows are within 900mm of finished floor level, glazing and frames are to be designed in accordance with PART 'K' BUILDING REGULATIONS 2010 DOCUMENT to act as guarding and resist horizontal forces accordingly.

Trickle Ventilation
Trickle ventilation to be fixed in to heads of all windows - minimum 15000 sq.mm to each habitable room. For further
guidance refer to PART F1(1) BUILDING REGULATIONS DOCUMENT Table 1.7 - Minimum equivalent area of background ventilators for single storey dwelling.

AIR PRESSURISATION TEST
Dwellings to be constructed in accordance with accredited details.
The dwellings designed q50 to be 4.0 m³ per hour per m² envelope area.
Contractor to undertake pre-completion pressure testing in accordance with part L1 of the Building Regulations.

VENTILATION.
Mechanical ventilation to discharge to external air and switched to light switch with 20 minute over run as follows: -

Kitchen 30 l/s via cooker hood (or 60l/s via wall mounted fan)
Bathrooms/en-suites 15 l/s
Cloakroom (WC's) 6 l/s
Utility room 30 l/s

Refer to 'FIRE SAFETY' section in relation to installation of ventilation ducts.

ROOF CONSTRUCTION
Roof pitch as indicated.

MARLEY MODERN Concrete Roof Tiles finish fixed on softwood tanalised battens on TYVEK SUPRO vapour permeable underlay on a mixture of standard manufacture timber roof trusses and attic trusses at maximum 600mm centres. See proposed layout for further information.

Valleys constructed from MARLEY DRY UNIVERSAL Valley on 22mm thick timber valley board in accordance with MARLEY details.

Min. 75mm upstand at intersection of roof and cavity wall.

Rainwater goods to comprise Hunter Regency PVCu gutters, laid level, with 74mm square section rainwater pipes. Refer to plans for location

Insulation -
Where there is roof void, insulation to comprise 100mm thick glassfibre quilt insulation type 'ISOVER FRAMEROLL 35 is to be laid parallel to and between ceiling joists and 300mm thick glassfibre quilt insulation is to be laid perpendicular to and over ceiling joists.12.5mm thick GYPROC WALLBOARD plasterboard and GYPROC MULTI finish to underside, with noggins to support all edges.
Construction to achieve a minimum 'U' value of 0.11W/m²K.

Where the ceiling follows the u/side of the roof, insulation to comprise 140mm thick 'CELOTEX XR4000' insulation set between 150mm deep rafters and underlined with 37.5mm thick 'CELOTEX PL4025' insulated plasterboard with skim finish. Refer to SE's drawings and calculations for details of the roof structure.
Construction to achieve a minimum 'U' value of 0.15W/m²K.

Wall plates to be 100mm x 75mm softwood with 30mm x 5mm mild steel straps at maximum 2000mm centres between internal face of plasterboard. All materials to be fixed in accordance with manufacturers instructions.

Refer to 'FIRE SAFETY' section in relation to installation of downlighters and ventilation ducts.

ELECTRICAL
All sockets, light switches, T.V. /telephone/data points, etc. to be positioned between 450 and 1200mm above finished floor level. The electrical consumer unit should be mounted so that the switches are 1350-1450mm above floor level
(Part M).

All electrical work to which the requirements of Part P (electrical safety) apply, will be designed, installed, inspected and tested by a person competent to do so.

Prior to completion of works the Local Authority must be satisfied that either:
An electrical installation certificate issued under a 'Competent Persons' scheme has been issued; or appropriate certificates and forms defined in BS 7671 (as amended) have been submitted that confirm that the work has been inspected and tested by a 'competent person' will have a sound knowledge and suitable experience relevant to the nature of the work undertaken and to the technical standards set out in BS 7671, be fully versed in the inspection and testing procedures contained in the regulations and employ adequate testing equipment. CERTIFICATES TO BE FORWARDED TO BUILDING CONTROL BODY BY MAIN CONTRACTOR UPON COMPLETION.

EV CHARGING
Provide dwelling with 7kW electrical vehicle charging point adjacent to garage with PODPOINT SOLO 3 or similar type charging unit.

CONSERVATION OF FUEL & POWER
Compliance with L1A checklist in PART 'L' BUILDING REGULATIONS DOCUMENT

All work to which the requirements of Part L (conservation of fuel & power) apply, will be designed, installed, inspected and tested by a person competent to do so.

Prior to completion of works the Local Authority must be satisfied that either:
Installation certificates (solar panels & air source heat pump) issued under a 'Competent Persons' scheme has been issued; or appropriate certificates and forms defined in BS 7671 (as amended) have been submitted that confirm that the work has been inspected and tested by a 'competent person' will have a sound knowledge and suitable experience relevant to the nature of the work undertaken and to the technical standards set out in BS 7671, be fully versed in the inspection and testing procedures contained in the regulations and employ adequate testing equipment. CERTIFICATES TO BE FORWARDED TO BUILDING CONTROL BODY BY MAIN CONTRACTOR UPON COMPLETION.

SAP calculation at both design stage and completion stage to be submitted to Building Control by Architect and EPC to be produced and submitted to Building Control following completion.

HEATING
High efficiency air source heat pump to be installed to provide central heating (via radiators or under floor heating). System to have a flow temperature of 35° and include time and temperature controls for separate zones (if more than one storey). Installation to be in strict accordance with the manufacturers instructions. An MCS (Microgeneration Certification Scheme) installation certificate, a document that verifies the quality and compliance of a small-scale renewable energy or low-carbon heat installation, is required upon completion. Condensate to discharge to a suitable foul drain (not surface water) condensate pipe work to the manufacturers instructions. All pipework incorporated in the water/heating system, that is situated in an unheated space is to be surrounded in 40mm of insulating material (min conductivity 0.045W/m²K).

HOT WATER
Water heating from main & dual immersion heaters, a 250litre hot water cylinder with calculated heat loss of no greater than 2.13 kWh/day. All primary pipe work to be fully insulated.

ENERGY EFFICIENT LIGHTING
All fixed lighting locations to be high efficiency lamps having a luminous efficacy greater than 80 lumens per circuit-watt must be provided. External lighting to have high efficiency lamps and to be controlled by passive infra red motion detectors and photoelectric cells.

FIRE SAFETY
All structural steelwork to comply with BS449, BS5950 and be encased in 12.5mm GYPROC FIRELINE Board and GYPROC MULTI Finish on proprietary metal frame, to give half fire resistance. FIRELINE Board is to be installed in accordance with manufacturer's details.

Dwelling to have a self contained mains powered fire detection and alarm system Grade A Cat 2 LD2 as described in
BS 5839-6:2004. Systems will require battery backup, permanently wired to a dedicated mains circuit, to conform with BS5466
Smoke alarms within a dwelling to be linked together, in accordance with manufacturers instructions, such that activation of one alarm activates all alarms within the dwelling. Alarms & detectors sited in accordance with recommendations of BS5839-1:2002 for a Cat 2 L2 system. Smoke alarms to be located min 300mm from wall/light fittings, sensors in ceilings to be mounted between 25-600mm from ceiling level. Heat detector to be positioned in kitchen, interlinked with smoke alarms and positioned min 300mm away from wall or light fitting.

Down lighters within all ceilings to have appropriate fire hoods to give 30 minute fire resistance, in order to avoid compromising fire resistance of floors or roof void.

Ventilation ducts to have 30 minute fire resistant fire shutter at intersection with ceiling, to ensure that fire reistance of ceiling is not compromised.

Soil pipes and soils and vent pipes to be encased in 12.5mm thick GYPROC WALLBOARD with skim finish on softwood framework to give 30 minute fire resistance. Provide detailed sub-contractor design information to confirm compliance (for approval by Building Control), prior to installation.

Access for fire appliances - Refer to site plan for carriageway width. Surface of roads to be designed to accommodate weight of minimum 12.5 tonnes.

PLUMBING & DRAINAGE
76mm deep seal traps to all fittings. 38mm diameter wastes to bath, shower and sink with 50mm diameter common wastes All in polypropylene to conform to BS.5572. All waste pipes to fall between 18-90mm/m and should be clipped to manufacturer's details. Rodding access to be provided at all bends in waste pipes.
PVC-U 100mm dia. SVP capped with cage terminating 900mm above nearest opening light. 'Durgo' air admittance valves to be fitted, where applicable, in accordance with agreement certificate. All boxing in for concealed service pipes should be sealed at floor and ceiling levels, and service pipes which penetrate or project into hollow constructions or voids. (refer to item D of diagram 4 of the Approved Document L).
Rainwater goods to comprise black coloured Hunter Regency PVCu gutters (125mm), laid level, with 74mm square section rainwater down pipes. Refer to plans for location -
All rainwater pipes to discharge to trapped gulleys.

Refer to 'FIRE SAFETY' section for details of encasement of soil and soil and vent pipes.

PVC-u underground drains and inspection chambers all to BS.4660. Drain trenches within 1m of external walls to be backfilled to underside of foundations with concrete. Drains passing under building encased in 150mm concrete. Where drains pass through wall, rocker covers either side are recommended and the following applies: short length of pipe bedded in wall, joints formed within 150mm of either wall face. Adjacent rocker pipes of max. length 600mm with flexible joints - complying with diagram 7(a) of H1 - Foul Water Drainage - PART 'H' OF THE BUILDING REGULATIONS.

Refer to separate drawing for details of external drainage.

ACCESS TO DWELLING
A 'level' or ramped approach to the dwelling is to be provided with a firm and even 900mm min wide surface with a gradient not exceeding 1 in 15 (landings to ramps to be min 1.2m in length). Access door to have cill of maximum height 15mm and to have minimum clear width 775mm. ALL DETAILS TO COMPLY WITH PART 'M' OF THE BUILDING REGULATIONS.

Appropriate hard surfaced car spaces and footpaths to be provided as indicated on architects and landscape drawings.

Where access landing abuts external wall provide cavity tray DPC. and threshold drain by WAVIN .

Refer to external works detail for further information in relation to location.

ACCESSIBILITY OF SERVICES
Locate consumer unit and electrical mains distribution board at height appropriate for 'disabled' access.

WATER CONSUMPTION (to comply with PART G BUILDING REGULATIONS)

Water to all taps to be provided from town mains (by statutory undertaker) - and to be classed as wholesome water suitable for drinking.

Water consumption not to exceed 120 litres/day/person

Maximum flow rates of :-
BATH 8 litres/min.
TAPS 6 litres/min.
SHOWER 11 Litres/min.
KITCHEN / UTILITY ROOM TAPS 6 litres/min.

Bath to have maximum volume of 140 litres
Toilets to be dual flush - max 6 litres main flush and 4 litres part flush
Dishwasher to be use maximum 0.71 litres per place setting
Washer to use maximum 7 litres per kilogram dry load.
Hot water to baths be limited to 48 degrees celcius maximum at point of discharge.

SECURITY
Dwellings to be compliant with Part Q Building Regulations in relation to security. Provide BS standard intruder alarm.
Doors and windows to be PAS complaint. Ground floor windows to have one pane of laminated glazing to each glazed panel.

PHYSICAL INFRASTRUCTURE OF HIGH SPEED TELECOMMUNICATIONS NETWORK
Dwelling to be constructed to comply with Part R Building Regulations with provision of facility to install high speed internet connection. Contractor to provide appropriate ducting between the network distribution point to the termination point to the property, to facilitate a full fibre broadband connection.

client
Mr & Mrs C Hamilton

project
Proposed Dwelling,
Knowsley Road, Ainsworth,
Bolton Lancashire BL2 5PT

title
Construction Notes

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drawn by
RH

staus

fisk &associates architects

20 chorley road, swinton, manchester, m27 5aj
t - 0161 793 5300 e - info@rafisk.co.uk