

# Building Regs Notes

**EXISTING STRUCTURE**  
Existing structure including foundations, beams, walls and lintels carrying new and altered loads are to be exposed and checked for adequacy prior to commencement of work and as required by the Building Control Officer.

**STRIP FOUNDATION**  
Provide 225mm x 600mm concrete foundation, concrete mix to conform to BS EN 206-1 and BS 8500-2. All foundations to be a minimum of 100mm below ground level, exact depth to be agreed on site with Building Control Officer to suit site conditions. All constructed in accordance with 2004 Building Regulations A1/2 and BS 8004:1988 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 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/m<sup>2</sup>K  
Solid ground floor to consist of 150mm consolidated well-rammed hardcore. Blinded with 50mm sand blinding. Provide a 1200 gauge polythene DPM, DPM to be lapped in with DPC in walls.  
Floor to be insulated over DPM with 90mm Xtratherm Thin-R.  
25mm insulation to continue around floor perimeters to avoid thermal bridging. A VCL 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 100mm ST2 or Ger2 ground bearing slab concrete mix to conform to BS 8500-2 over VCL. Finish with 65mm sand/cement finishing screed with light mesh reinforcement.  
Where drain runs pass under new floor, provide A142 mesh 1.0m wide within bottom of slab 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 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.

**WALLS BELOW GROUND**  
All new walls to have Class A blockwork below ground level or alternatively semi engineering brickwork in 1:4 masonry cement or equal approved specification.  
Cavities below ground level to be filled with lean mix concrete min 225mm below damp proof course. Or provide lean mix backfill at base of cavity wall (150mm below damp course) laid to fall to weepholes.

**Full Fill Cavity Wall**  
To achieve minimum U Value of 0.28W/m<sup>2</sup>K  
New cavity wall to comprise of 105mm facing brick to match existing. Full fill cavity with 100mm Dritherm32 cavity insulation as manufacturer's details.  
Inner leaf to be 100mm block K value 1.13, e.g. Lafarge Stancrete. Internal finish to be 12.5mm plasterboard on dabs. Walls to be built with 1:1.6 cement mortar.

**WALL TIES**  
All walls constructed using stainless steel vertical twist type retaining wall ties built in at 750mm ctrs horizontally, 450mm vertically and 225mm ctrs at reveals and corners in staggered rows.  
Wall ties to be suitable for cavity width and in accordance with BS 5628-6-1: 1996 and BS EN 845-1: 2003

**CAVITIES**  
Provide cavity trays over openings. All cavities to be closed at eaves and around openings using Thermabate or similar non combustible insulated cavity closers.  
Provide vertical DPCs around openings and abutments. All cavity trays must have 150mm upstands and suitable cavity weep holes (min 2) at max 900mm centres.

**PIPEWORK THROUGH WALLS**  
Where new pipework passes through external walls form rocker joints either side wall face of max length 600mm with flexible joints with short length of pipe bedded in wall.  
Alternatively provide 75mm deep pre-cast concrete plank lintels over drain to form opening in wall to give 50mm space all round pipe; mask opening both sides with rigid sheet material and compressible sealant to prevent entry of fill or vermin.

**LINTELS**  
For uniformly distributed loads and standard 2 storey domestic loadings only  
Lintel widths are to be equal to wall thickness. All lintels over 750mm sized internal door openings to be 65mm deep pre-stressed concrete plank lintels.  
150mm deep lintels are to be used for 900mm sized internal door openings. Lintels to have a minimum bearing of 150mm on each end.  
Any existing lintels carrying additional loads are to be exposed for inspection at commencement of work on site.  
All pre-stressed concrete lintels to be designed and manufactured in accordance with BS 8110, with a concrete strength of 50 or 40 N/mm<sup>2</sup> and incorporating steel strands to BS 5896 to support loadings assessed to BS 5977 Part 1.  
For other structural openings provide proprietary insulated steel lintels suitable for spans and loadings in compliance with Approved Document A and lintel manufactures standard tables.  
Stop ends, DPC trays and weep holes to be provided above all externally located lintels.

**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 abuts the existing walls provide a movement joint with vertical DPC.  
All tied into existing construction with suitable proprietary stainless steel profiles.

**STRAPPING FOR PITCHED ROOF**  
Gable walls should be strapped to roofs at 2m centres. All external walls running parallel to roof rafters to be restrained at roof level using 1000mm x 30mm x 5mm galvanised mild steel horizontal straps or other approved to BS EN 845-1 built into walls at max 2000mm centres and to be taken across minimum 3 rafters and screw fixed. Provide solid noggins between rafters at strap positions.  
All wall plates to be 100 x 50mm fixed to inner skin of cavity wall using 30mm x 5mm x 1000mm galvanised metal straps or other approved to BSEN 845-1 at maximum 2m centres.

**PITCHED ROOF INSULATION AT CEILING LEVEL**  
Pitch 22-45° (imposed load max 0.75 kN/m<sup>2</sup> - dead load max 0.75 kN/m<sup>2</sup>)  
To achieve U value of 0.16 W/m<sup>2</sup>K  
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 150mm grade C24 rafters at max 400mm centres max span 3.47m.  
Rafters supported on 100 x 50mm sw wall plates. Insulation at ceiling level to be 100mm Earthwool 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.  
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.  
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 galvanised straps or other approved to BS EN 845-1 at 2m centres.  
**THIS IS A GENERAL GUIDE BASED ON NORMAL LOADING CONDITIONS FOUND IN DOMESTIC CONSTRUCTION. IT IS YOUR RESPONSIBILITY TO ASSESS YOUR DESIGN TO ASCERTAIN WHETHER ENGINEER'S DETAILS/CALCULATIONS ARE REQUIRED. PLEASE REFER TO THE TRADE DOCUMENT - SPAN TABLES FOR SOLID TIMBER MEMBERS IN FLOORS, CEILINGS AND ROOFS FOR DWELLINGS' OR ASK YOUR BUILDING CONTROL OFFICER FOR ADVICE.**

**STRAPPING OF FLOORS**  
Provide lateral restraint where joists run parallel to walls, floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with BS EN 845-1 at max 2.0m centres, straps to be taken across minimum of 3 joists. Straps to be built into walls. Provide 38mm wide x ¼ depth solid noggins between joists at strap positions.

**BEAMS**  
Supply and install new structural elements such as new beams, roof structure, floor structure, bearings, and padstones in accordance with the Structural Engineer's calculations and details.  
New steel beams to be installed in 12.5mm Gyproc FireLine board with staggered joints, Gyproc FireCase or painted in Nullifire S or similar intumescent paint to provide 1/2 hour fire resistance as agreed with Building Control.  
All fire protection to be installed as detailed by specialist manufacturer.

**INTERNAL STUD PARTITIONS**  
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/m<sup>3</sup> density acoustic soundproof quilt tightly packed (eg. 100mm Rockwool or Iso wool mineral fibre sound insulation) in all voids the full depth of the stud.  
Partitions built off doubled up joists where partitions run parallel or provide noggins where at right angles, or built off DPC on thickened concrete slab if solid ground floor.  
Walls faced throughout with 12.5mm plaster board with skim plaster finish. Taped and jointed complete with beads and stops.

**ELECTRICAL**  
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 BRE certification Ltd, BSI, NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 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 Building Control on completion.

**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 bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

**NEW GAS BOILER**  
Heating and hot water will be supplied via a wall mounted condensing vertical balanced flue pressurised boiler with a min SEDBUK rating of 90%. No combustible materials within 50mm of the flue.  
System to be fitted with thermostatic radiator valves and all necessary zone controls and boiler control interlocks. The system will be installed, commissioned and tested by a 'competent person' and a certificate issued that the installation complies with the requirements of PART L.  
All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

**SMOKE DETECTION**  
Mains operated linked smoke alarm detection system to BS EN 14604 and BS5839-6:2004 to at least a Grade D category LD3 standard and to be mains powered with battery back up.  
Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/storesys and within 7.5m of the door to every habitable room.  
If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.

**ESCAPE WINDOWS**  
Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms. Windows to have an unobstructed openable area of 450mm high x 450mm wide, minimum 0.33m sq.  
The bottom of the openable area should be not more than 1100mm above the floor. The window should enable the person to reach a place free from danger from fire.

**ROOF LIGHTS**  
Min U-value of 1.6 W/m<sup>2</sup>K.  
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.

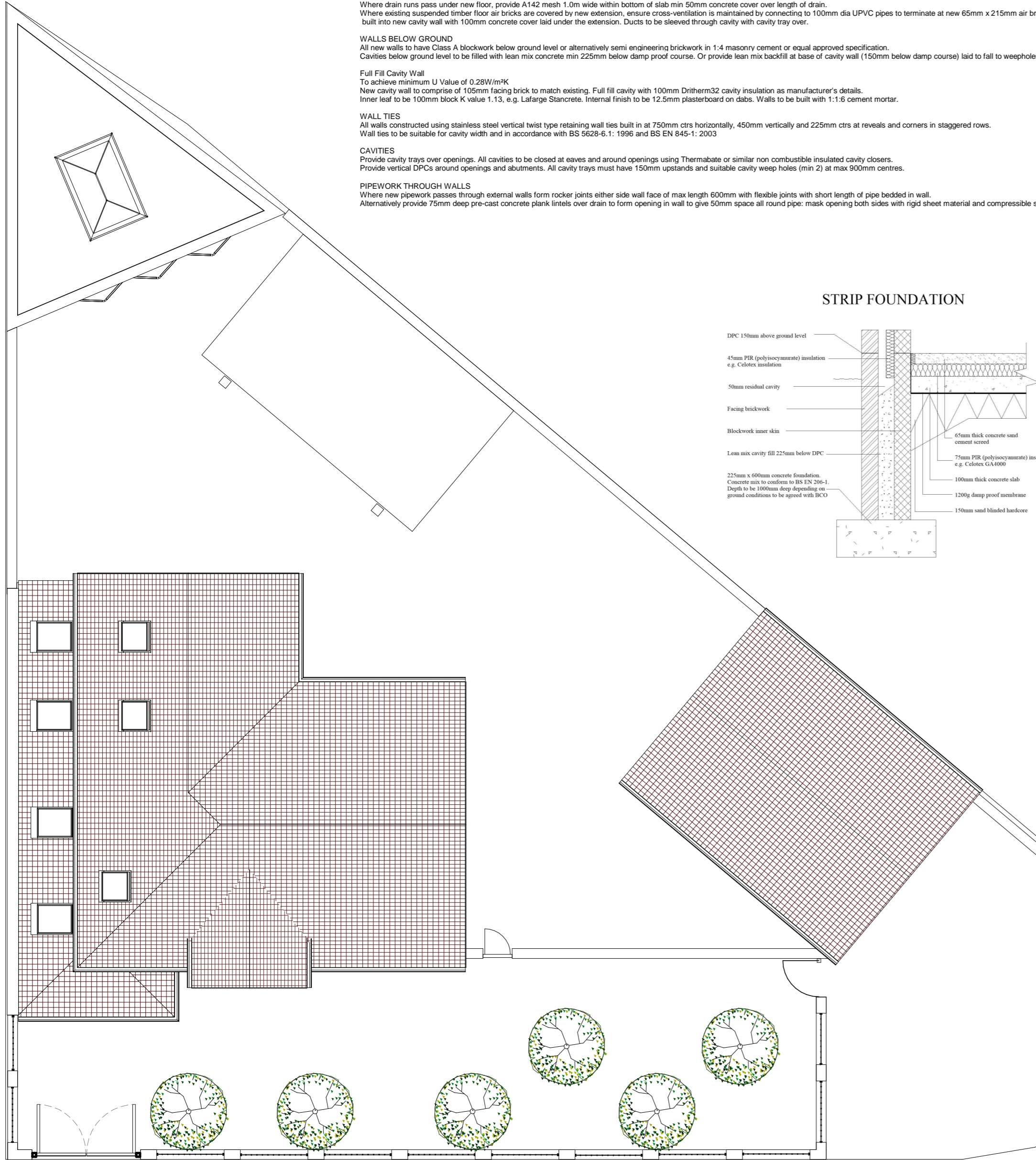
**NEW AND REPLACEMENT WINDOWS**  
New and replacement windows to be double glazed with 16mm argon gap and soft coat low-E glass. Window Energy Rating to be Band C or better and to achieve U-value of 1.6 W/m<sup>2</sup>K.  
The door and window openings should be limited to 25% of the extension floor area plus the area of any existing openings covered by the extension.

**BACKGROUND AND PURGE VENTILATION**  
Background ventilation - Controllable background ventilation via trickle vents to BS EN 13141-3 within the window frame to be provided to new habitable rooms at a rate of min 5000mm<sup>3</sup>; and to kitchens, bathrooms, WCs and utility rooms at a rate of 2500mm<sup>3</sup>.  
Purge ventilation - New Windows/rooflights to have openable area in excess of 1/20th of their floor area, if the window opens more than 30° or 1/10th of their floor area if the window opens less than 30°  
Internal doors should be provided with a 10mm gap below the door to aid air circulation.  
Ventilation provision in accordance with the Domestic Ventilation Compliance Guide.

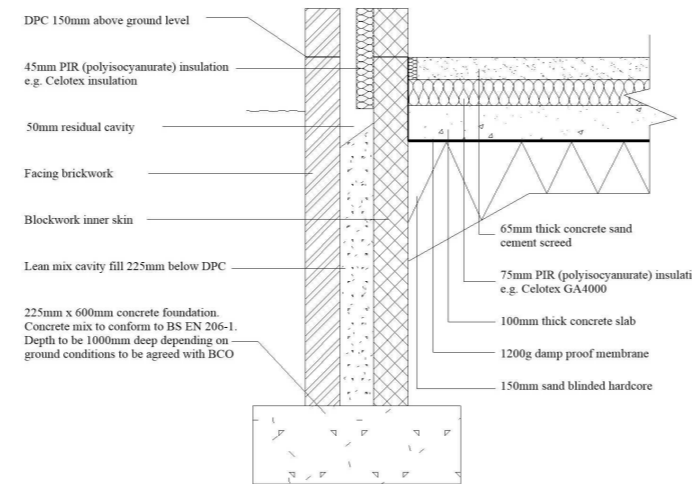
**RAINWATER DRAINAGE**  
New rainwater goods to be new 110mm UPVC half round gutters taken and connected into 68mm dia UPVC downpipes. Rainwater taken to new soakaway, situated a min distance of 5.0m away from any building, via 110mm dia UPVC pipes surrounded in 150mm granular fill. Soakaway to be min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

**UNDERGROUND FOUL DRAINAGE**  
Underground drainage to consist of 100mm diameter UPVC proprietary pipe work to give a 1:40 fall. Surround pipes in 100mm pea shingle. Provide 600mm suitable cover (900mm under drives).  
Shallow pipes to be covered with 100mm reinforced concrete slab over compressible material. Provide rodding access at all changes of direction and junctions. All below ground drainage to comply with BS EN 1401-1: 2009.

**INSPECTION CHAMBERS**  
Underground quality proprietary UPVC 450mm diameter inspection chambers to be provided at all changes of level, direction, connections and every 45m in straight runs.  
Inspection chambers to have bolt down double sealed covers in buildings and be adequate for vehicle loads in driveways.



**STRIP FOUNDATION**



PA/2017/766

<b>LG Builders</b> www.lgbuilders.co.uk		
PROJECT		
103 Stockshills Rd, Scunthorpe, DN16 3LF		
TITLE		
Proposed Site Layout		
CLIENT		
Mr Thorne		
DRAWN BY Leon	CHECKED BY Leon	DATE 10/05/2017
SCALE ( @A2 ) 1 : 100		REV Planning
DRAWING NUMBER 103SR/2017/05		