



# SECTION A - A

The appointed Contractor is to check depth and stability of the existing foundations and allow inspection and approval by the Building Inspector .

In addition the following is to be allowed for :-

- a contingency sum for any possible additional foundation/drainage works.

## FOUNDATIONS

The existing ground within the extent of the proposed building construction site shall be cleared of all turf and vegetable matter prior to any further excavation being made. Method of disposal of any contaminated soil to be agreed with the Local Authority Environmental Officer. Any demolition works shall be carried out methodically and systematically with due consideration of adjacent grounds and buildings. The disposal of debris shall be actioned via skips and approved/licensed environmental/recycling centres. Foundation trenches shall be clean, true and checked for soft areas, water etc. and left with compacted bottoms. Foundations shall be located centrally under external and load bearing internal walls. All foundations shall be designed with due regard to subsoil conditions, water table, presence of sulphates and previous ground use etc. Depth and design to Local Authority requirements and subject to amendment when site conditions have been fully investigated.

Mass concrete (1:2:4) strip foundations 600mm x 150mm deep. Depth of foundations to be determined on site but a minimum 600mm cover to G.L. and/or depth of existing foundations within 1000mm of a drain to be taken down to invert level minimum. Concrete to be Grade C15P to BS5328 using OPC cement and 20mm nominal maximum size of aggregate.

## EXTERNAL CAVITY WALLS.

External skin to be matching facing bricks (80mm high). Internal skin to comprise 100mm thick Thermalite blocks, or similar approved, laid in matching mortar (1:1:6 cement, lime & sand) and bond with struck joints with 100mm wide cavity, all toothed to existing or abutted to Catnic 'Stronghold' stainless steel (or similar approved) extension ties plugged and bolted to existing brick/blockwork. 7N/mmsq. Celcon Trench blocks, or similar approved, 300mm wide, up to within 300mm of DPC, and between D.P.C. and Trench Blocks matching facing bricks to be used.

The cavity is to be filled with a lean mix concrete up to a level of 225mm below DPC and is to be laid with sulphate resistant mortar. Provide perpender weep holes every 4th vertical joint in the outer leaf at the base of the cavity at 150mm below DPC. The cavity is to be closed at all window and door openings using proprietary cavity closer 'Thermabate' or similar approved, installed in accordance with manufacturer's instructions and at eaves level with blockwork. Maintain a continuous cavity between new and existing walls. Skins to be spaced at 900mm centres horizontally and 450mm centres vertically and at 225mm centres at openings. Provide additional ties within 225mm of side of openings at no more than 300mm centres. Ensure cavities are kept free from debris, by approved method, as works proceeds. Vertical DPC to be provided at all un-bonded joints.

The horizontal damp-proof course shall consist of a layer of 2000 gauge polythene damp course to B.S. 743/6515 adequately lapped at corners and joints on a mortar bed maintaining a minimum 150mm above adjacent ground level. 150mm laps to be provided with any existing DPCs. Ensure that DPCs do not project into the cavity.

Where external wall cavity is bridged i.e. air brick/ventilator openings and meter cupboards etc. provide polythene cavity trays complete with stop ends over in the external wall with open proprietary covers. Provide polythene lapped and continuous cavity trays with stop-ends above all lintels and over short pliers between closely spaced openings.

Provide open perpends or PVC perpends at 300mm centres minimum 2no. per openings. Cavity trays are to project 150mm beyond either side of lintel/opening. Structural openings to be supported using Catnic Lintels (or similar approved) as itemised on the Lintels Schedule using galvanised M.S. insulated lintels to B.S. EN 10327:2004 DXID & Z275 with black coloured polyester resin finish (or similar approved) with 150mm end bearings to both ends.

## EXTERNAL CAVITY WALL INSULATION

Knauf Dri-therm Cavity Slab 32 Ultimate 100mm thick, or similar approved, cavity wall insulation slabs to provide a min. u-value of 0.28W/msqK. Fix batts securely with tightly butted joints, ensuring that all edges are not damaged and that top edges are not damaged and that top edges are covered with a temporary batten to ensure they remain free from mortar droppings and other debris. The cavity wall insulation is to commence below the DPC to avoid cold bridging.

## EXTERNAL RENDERING

Manufacturer : Insulated Render & Cladding Association (INCA) registered system manufacturer. System Reference: INCA registered and Agreement certified.

System : Direct applied render installed by INCA approved installer.

System Guarantee : Pre-render scheme. On completion provide 10 year latent defect INCA insurance backed guarantee.

Colour : To be selected by Client.

Beads And Stops For Rendering:- Manufacturer: Contractor's choice.

Beads And Stops: Stainless steel.

Position: All external angles and stop ends.

## SITE FABRICATED DORMER

Softwood Studding, Sole Plate, Lintel and Noggins To Site Fabricated Roof Dormer :-

Strength Class: C24.

Species: European redwood.

Size: 47 x 97 mm. Corners, lintel and window reveals to be doubled up.

Treatment: Not required.

Stud Centres: 400 mm.

Fasteners: Skew nail.

Plywood Sheathing To Site Fabricated Roof Dormer :-

Manufacturer: Contractor's choice.

Product Reference: Contractor's choice.

Type: 24 mm Spruce or Birch, square edged sheathing grade plywood.

Fasteners: 75 x 3.35 mm galvanized annular ringed shank nails.

Insulation Boards Or Battis Fitted Between Studs in Roof Dormer :-

Manufacturer: Knauf Insulation Ltd or similar approved.

Product reference: Earthwool® Rafter Roll 32 with ECOSE® Technology

Thickness: 85 mm

Thermal Plasterboard Wall Dry Lining Mechanically Fixed :-

Manufacturer: British Gypsum

Product Reference: Thermanline Super

Type: Extra high density (EHD) expanded polystyrene thermal plasterboard.

Overall Thickness: 40 mm.

Edge Profile: Tapered.

Fixing: Mechanically fixed as recommended by manufacturer.

Joints: Taped and filled.

Finish: Prepared for plaster skim coat.

## EXTERNAL / INTERNAL WALLS FINISH.

Walls to be finished internally with an approx. 13mm thick layer of bonding plaster and 2-3mm thick finishing skim plaster floated smooth or 12.5mm plasterboard on plaster dabs with 2-3mm thick plaster skim finish.

## INTERNAL WALLS - LOAD & NON-LOAD BEARING BLOCKWORK .

100/140mm thick Thermalite blocks, or similar approved, laid in matching mortar (1:1:6 cement, lime & sand) and bond with struck joints and abutting existing.

## INTERNAL WALLS - NON-LOAD BEARING STUDWORK .

75x50mm carcassing softwood framing comprising of sole and head plates, uprights at 400mm centres and noggins staggered at midheight. Partitions to be lined both sides with 12.5mm plasterboard, screw fixed with purpose made plasterboard screws and 2-3mm plaster skim finished. All partitions to be supported on double floor joists or noggins.

For partitions to bedrooms these are to be lined with 12.5mm thick plasterboard and void filled with 75mm thick insulation quilt.

For partitions to ensuite and WC these are to be lined with 12.5mm thick plasterboard and void packed filled with 100mm thick insulation quilt.

## SOLID GROUND FLOOR CONSTRUCTION

Granular material, free from harmful matter, well graded and passing a 75mm B.S. sieve. Crushed hard rock or quarry waste, not chalk or crushed concrete, bricks or tiles free from old plaster. Average thickness of hardcore bed to be 200mm. Increase thickness as necessary to make up levels and backfill foundation at trench. Hardcore to be thoroughly compacted in layers not exceeding 200mm. Surfaces of hardcore to have a sufficient consolidated layer of 25mm blinding sand to fill interstices and provide a close smooth surface for 1200 gauge polythene DPM to PIFA standard 6/83A, Visqueen Econombrane or similar approved, laid with edges lapped not less than 300mm and turned up the perimeter walls and tucked under DPC to provide a complete water proof membrane.

Concrete to be grade C10P to BS 5328 (1:3:6) using OPC cement and 20mm nominal maximum size of aggregate. Concrete floor slab to be 150mm thick with light gauge wire mesh reinforcement in centre. 80mm thick Kingspan Kooltherm K3 Insulation Slabs, or similar approved, overlaid with building paper to BS 1521:1972 (1994) Grade B1F. 20mm Kingspan Kooltherm, or similar approved, perimeter insulation slabs - all to achieve U-value of 0.022W/msqK.

65mm thick screet K Screed, or similar approved, to BS8204-1. Screed to be floated smooth and finished flush with existing floor level unless otherwise stated.

## FIRST FLOOR CONSTRUCTION.

18mm thk. moisture resistant flooring Type C4 chipboard to B.S. 5669 or European redwood species softwood floor boarding. Ensure throughout edges of boards supported on joists or noggins, with 10mm expansion gap at room perimeters. Boards to be securely fixed through to grade C16 50x200mm softwood floor joists at 400mm centres with either annular floorboard nails or screws. Floor joists to be restrained laterally with full depth noggins or proprietary galvanised M.S. herring-bone struts at both ends and mid-span and hung from bedded/fixed galvanised M.S. hangers. Provide 50x50mm softwood noggins to perimeters, joints and light fittings.

Ceiling to be lined with 12.5mm thick plasterboard, fixed with proprietary plasterboard screws and finished with 2 - 3mm plaster skim.

## PITCHED ROOF CONSTRUCTION.

100x50mm softwood wallplates bedded to top of internal cavity wall skin and held down with 30x5mm mild steel straps at 1.2m centres (1.2m long) bent at right angles to give a min. 75mm fixing to top of the wallplate.

Vaulted roof (Master Bedroom & Dormer) - Class C16 50 x 150mm softwood rafters at 400mm centres birds-mouthed over wallplates and over steel ridge purlin within Master Bedroom and spiked to 25x150mm swd. ridge within the dormer.

Trussed roof (Bedrooms 2, 3 & 4 & Garage) - to be fabricated by a trussed roof fabricator who is a member of the Trussed Roof Association. The trussed rafters framing, at 600mm centres, to be fabricated in accordance with the following :-

BS 5268 -3; BRE Defect Action Sheets 27, 28, 43, 44, 83 and 84; BRE Good Building Guide 8 and TRADA Wood Information, Section 1, sheet 29.

The roofs to be in matching slate roof tiles, all to be fixed to manufacturer's recommendations. Ridges and hip tiles to match existing laid in wet mortar. Roof battens to be regularized softwood to B.S. 5534, tanalised - size and fixed as recommended by roof tile manufacturer.

Breather membrane to B.S. 4016 or Agreement Certified.

The main roof is to be cross vented by proprietary eaves ventilator equivalent to 25mm continuous air gap within eaves. Proprietary over rafter ventilation trays are to be fixed between rafters. Ceiling to be 12.5mm foil backed plasterboard with plaster skim. Provide 50x50mm softwood noggins to perimeters, joints and light fittings.

U.p.v.c. fascias and soffits - to match existing in size and in colour selected by Client fixed to rafters with softwood battens.

## RAINWATER GOODS.

Matching 112mm wide PVCu gutters laid to falls to discharge into 65mm diameter round rainwater downspouts.

## ROOF INSULATION

Main pitched roof - total of 270mm with Knauf Fibreglass Quilt or similar approved - 1st. layer 100mm to be laid between joists and 2nd. layer 170mm at right angles over 1st. layer. Separate but linking quilt to be laid over the softwood wallplate and wedged into the cavity to avoid cold-bridging and close the cavity. Roof to achieve a U-value of at least 0.16W/m2K.

Vaulted Ceiling - TLX Silver below rafter in conjunction with 80mm thick Phenolic Board between rafters and with TLX Silver sandwiched between the underside of the rafters and 38mm thick battens, to which the plasterboard will be fitted onto.

## FLASHING

Code 4 patinated lead, 25mm deep within brickwork, held in place with lead wedges, pointed in with matching pointing and with 100mm overlaps and over roof finish .

Valleys to be in either lead or GRP, laid on 9mm thk. W.B.P. ply fixed to rafters. Gaps filled in with colour matching mortar (1:1:6 cement, lime & sand).

## WINDOWS AND EXTERNAL DOORS.

To be anthracite grey - check with Client on type. Check with Client on material for bi-folding doorset.

Windows to provide min. opening lights equal to 5% of the floor area of the room served and provide min. background ventilation via controlled trickle ventilators to achieve 4000msq. in the kitchen, bathroom, cloakroom and utility room windows and 8000msq. to all other habitable rooms. All windows for emergency egress to have an operable area of at least 0.33msq. and have an unobstructed dimension of at least 450x450mm. The bottom of the operable area should not be more than 1100mm above finished floor level.

To be glazed with 28mm (4:20:4) sealed double glazing units ( Pilkington 'K' or similar to achieve low-e emissivity of 0.15) with a min. U-value of 1.8 W/msqK or centre pane value of 1.2W/msqK or energy rating band D. Doors 50% glass U value 2.2W/msqK or centre pane U value 1.2 W/msqK.

All glass shall be in accordance with BS 6262:1978. Obscure glazing is to be provided to all bathrooms and cloakrooms. All windows and doors to be weather stripped.

Safety glazing in accordance with BS 6206:1981 shall be fitted in the following critical locations :-

- 1 - All glazed doors.
- 2 - All full height sidelights.
- 3 - Any window within 300mm of a door opening up to a height of 1500mm.
- 4 - Any window between finished floor level and 800mm above that level.

## VELUX WINDOW

To be installed in accordance with manufacturer's instructions. To include all proprietary flashings, aprons and vapour barriers. Breather membrane to be carefully cut and dressed in.

Provide double rafters and trimmers to all sides of the window.

Ref., size and make to be selected and checked by Client.

## PLUMBING INSTALLATION.

Discuss with Client re. sanitary and utility fittings and install in strict accordance with the manufacturer's recommendations and to layout as agreed with Client.

Complete installation to be subject to and capable of withstanding testing in accordance with BS 5572 : 1978. Above ground foul drainage pipe work shall be PVC u to BS 4514.

Pipework must be installed in accordance with BS 5572 and ensured that appliances drain efficiently without causing crossflow, backfall, leakage or blockage. No air from the system shall enter the building. Provide adequate support to lengths of pipework and at junctions and changes in direction. No branch connection to be within 450mm above foot of soil pipe.

Minimum sizes for sanitary plumbing to be :-  
 WCs and soil pipes 100mm dia. nom. size  
 Common waste pipes 50mm dia. nom. size  
 Bath and sinks 50mm dia. nom. size  
 Handbasins 32mm dia. nom. size  
 Shower 40mm dia. nom. size  
 Overflow 19mm dia. nom. Size

All fittings to have 75mm deep seal traps. Provide waste for washing machine and dishwashers where applicable. All waste pipes to be laid to falls (25mm per metre run).

The maximum lengths of waste pipes shall be as follows :-

32mm pipe 1.7m maximum length

40mm pipe 3.0m maximum length

50mm pipe 4.0m maximum length

100mm pipe 6.0m maximum length

Soil and ventilating stacks at head of drain run to be ventilated to the external air via rigid ducting within roof space to terminate via tile or ridge tile ventilator (min. 900mm above any window head within 3m horizontally). Where soil and ventilating stacks terminate internally air admittance valves (Dargo Valves) can be used.

Soil pipes passing through any habitable rooms (including kitchens) to be lagged with min. 100mm sound deadening quilt and with 2 layers of 12.5mm plasterboard in 50x50mm softwood framing. Access and rodding eye fittings to be provided to ensure all pipework is accessible as required. Pipework laid between joists to be adequately supported. Underground pipes with less than 750mm ground cover shall be insulated. All rising mains to be insulated.

## DRAIN RUNS UNDER BUILDINGS.

To be surrounded in 100mm granular fill. On sites where excessive subsidence is possible additional flexible joints should be provided. Where the top of the pipe is within 300mm of the underside of the slab concrete encasement shall be used and be integral with the slab. Provide flexible movement joints of compressible board at each pipe junction when encasing in concrete.

Where a drain runs through a wall or foundation provide a length of pipe (as short as possible) built with its joints as close as possible to the wall/foundation faces (within at most 150mm) and connected on each side to rocker pipes with a length of at most 600mm and flexible joints.

## UNDERGROUND DRAINAGE - ACCESS POINTS.

Rodding eyes, access fittings, inspection chambers and manholes are to be provided at the following points :-

- a) On or near the head of each drain run.
- b) At a bend and at a change of gradient.
- c) At a change of pipe size.
- d) At a junction unless each run can be cleared from an access point.

450mm PVCu inspection chamber on a 100mm thick concrete base and surrounded with 150mm of pre-shingle for invert levels of 1000 or less.

Traditional brick built manhole 1200x750mm internal sizes with a 600x600mm cover for invert-levels up

to 2700mm deep. manhole to comprise of 215mm thick engineering bricks on a 150mm thick concrete base. half round vitrified clay channels and swept barnches to discharge in the direction of flow and be benched up at least to the top of the outgoing pipe and at a slope of 1:12. Benching should be rounded at the channel with a radius of at least 25mm. Provide step-irons or vertical ladder for depths exceeding 1000mm.

Manhole or inspection chambers should have removable non-ventilating covers to be either cast-iron or pressed steel and be of suitable strength. Covers inside buildings shall have mechanically fixed airtight covers.

## ELECTRICAL INSTALLATION.

The electrical sub-contractor is to discuss with the Client re. the location, number and type of :-

- Sockets,
- Light fittings,
- Shower Units.

To be in full accordance with BS 7671:2001 and with the latest edition of the IEE wiring regulations and should be carried out in accordance with current installation techniques applicable to the material and equipment being used. All electrical works shall also comply with the Building Regulations Part P. All cables which are covered or surrounded with thermal insulation to be de-rated in accordance with Appendix A of BRE Thermal Insulation : Avoiding Risks 2002 Edition.

Down-lighters in ceiling voids are to be either boxed in with 12.5mm plasterboard or fitted with an intumescent cover to maintain half hour fire resistance.

Services and fittings within the roof space are to be protected from overheating. Lighting circuit cables to be 1.5sqmm. minimum where within insulation - all other cables runs to be supported by and clipped to roof timbers and be kept clear of insulation.

External light fittings should have automatic controls, and/or be capable of only taking lamps having a greater efficacy of greater than 40 lumens per circuit watt.

Installations should be tested at the end of installation before they are taken into service to verify that they are safe and that they comply with BS 7671:2001. This report shall be signed by a competent person who should be a Corporate Member of the Institution of Electrical Engineers (IET) or with the National Inspection Council for Electrical Installation Contracting or Electrical Contractors Association.

The report should show that the installation has been :-

Inspected and verified that the works are in compliance with the appropriate BS and not visibly damaged or defective so as to be unsafe.

Tested to check satisfactory performance in relation to continuity of conductors, insulation resistance, separation of circuits, polarity, earthing and bonding arrangements, earth fault loop impedance and functionality of all protective devices including residual current devices.

Such works on the existing fixed electrical installation in the building as are necessary to enable the additions and alterations, the circuits which feed them, the protective measures and the relevant earthing and bonding systems to meet the requirements.

Establish that the mains supply equipment is suitable.

Efficiency light fittings are to be fitted as per 1 light fitting per 25sqm. of floor area or 1 energy light fitting per 4 light fittings, whichever is greater. Such fitting are fluorescent tubes and compact fluorescent lamps

but not GLS tungsten lamps with bayonet cap or Edison screw bases.

Halls, stairs and landings count as one room but may contain more than one fitting. Efficiency light fittings cannot be located in garages, lofts and outhouses. The exact locations of these light fittings are to be determined on site.

## SMOKE ALARMS.

To be installed in circulation areas on each storey of the dwelling. Smoke alarm unit to BS 5445 ; Part 1 : 1990 and is fitted min. 300mm from light fittings and walls. Alarms must be connected to a separately fused mains electricity supply with a transformer (if needed) and where more than one unit is fitted within a dwelling they must be interconnected. Alternatively, with agreement with Building Regulations inspector battery operated interconnected units may be fitted.

## MECHANICAL EXTRACTORS.

Bathroom & Ensuite.  
 Via a wall or ceiling mounted extractor, extracting to external air at a rate of 15l/sec, operated to overrun after switching light off.

Kitchen.  
 Via a wall or ceiling mounted extractor, extracting to external air at a rate of 30l/sec.

## CENTRAL HEATING.

Existing central heating system to be extended into new rooms in accordance with BS 5449. All new radiators/towel warmers to be fitted with thermostatic valves and to match with existing wherever possible and/or to the client's requirements.

Domestic hot water distribution pipes to be insulated with wrap max. 0.045W/msqK, where pipes are not exposed. All water pipes in roof spaces, all cold water service pipes and all central heating pipework, not contributing useful (designed) heat, to be insulated to BS 5422:1990.

New/replacement boilers to be condensing boiler with a minimum SEDBUK A rating of 86% with appropriate controls with steel panel radiators, fitted with thermostatic valves, via copper distribution pipework. Primary pipework must be copper but flexible pipework may be used for heating distribution, where concealed, but only with prior written approval of the heating designer and the Client.

The proprietary flue is to be taken directly to the outside air, installed strictly in accordance with the manufacturer's instructions. Flue is to be provided with a protective cowl. Position of flue outlets to comply with part J of the Building Regulations and is dependant on the type of appliance and appliance rating.

All gas installations to comply with the British Gas Council recommendations and the acceptance of the relevant Local Gas Authority.

## INTERNAL JOINERY.

Architraving and Skirting - to match existing.

Doorsets - to match existing.

## TILING & FLOOR FINISHES.

To be discussed with Client.

## INTERNAL DECORATING.

To be discussed with Client.

## HARD LANDSCAPING.

Allow for making good to existing driveway/paths.

## Notes

All works to be in accordance with the current Building Regulations and British Standards, and to the satisfaction of the Building Control Officer and Planning Officer where applicable.

All materials are to be used and installed in accordance with the relevant manufacturer's instructions and recommendations. The quality of any materials shall not be any lower than that defined in the relevant British Standard, or that the material has been satisfactorily assessed by an appropriate independent authority.

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Rev.	Description	Date	By



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Project	Client
Proposed Raising of Ridge Height, Rear Extensions & Remodelling.	Mr. & Mrs. T. Coulson.
Section A - A & Specifications.	