BUILDING DESIGN SOLUTIONS NORTH EAST LIMITED

SPECIFICATION

27 Farm Hill Road,

Cleadon

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Specification

Foundations.

The foundations of the proposed extension are to be in accordance with B.S. 8004. The foundations are to be 600*225mm bearing onto firm clay strata to the invert of any drains running through or parallel with the excavations. The width of these excavations are to be 600mm. Note that all foundations must be a minimum of 900mm below ground level. All excavations are to be stepped below the drains and reinforced concrete lintels bridged over the pipe. There are no trees within a 20m radius of the extension that will affect the design of the foundations. The thickness of all other foundations is to be a minimum of 150mm.

Walls.

The new external walls of the extensions are to be constructed of 100mm facing brick with a 85mm cavity and 100mm thermolite blockwork internally then plasterboard dot and dabbed with a 3mm finishing skim. The cavity is to be fully filled with knauf drytherm 32 ultimate insulation to achieve a U value of 0.27 W/m^2K. Stainless steel wall ties are to be used to B.S. 1243 placed at staggered intervals of 750mm horizontals, 450mm verticals and every 300mm around windows and doors. All windows and doors are to be provided with vertical insulated D.P.C.'s and all new cavities are to be continuous with the existing construction. Ccavity fine weak mix to be 225mm below the DPC level. The new stud wall to the first floor are to be 100mm x 50mm softwood timber with a minimum of 25mm mineral wool between the studs. 12.5mm plasterboard and a 3mm plaster skim is to be provided either side of the wall ready for decoration.

Ground Floor.

The floor of the extension is to be made up of 125mm of concrete. Underneath the concrete 125mm of Jablite insulation is to be provided then a 1200 gauge visqueen DPM. Underneath that compacted dolomite is to be placed in layers of 150mm to achieve a U value of 0.22 W/m^2K**.** To the perimeter of the floor 30mm of jablite is to be provided to prevent cold bridging. **Any underfloor ventilation present is to be continuous through the new concrete floor construction with 100mm dia pipe work.ducted airbricks are to be provided at 1m centres.**

Drainage.

A new SVP is to be provided as indicated and connected into the existing drainage system. A new 300mm dia pre –formed plastic manhole is to be provided as shown connected into the existing drainage run. New roddable gullies are to be provided also as indicated on the plan and connected into the existing system . The new drainage to consist of 100mm diameter hepworth supersleeve plastic pipe work which is to be bedded in pea gravel. All new drainage is to be laid to a minimum gradient of 1:40 and connected into the manholes as indicated. 20mm pea gravel is to be used to surround the pipe work. 125mm half round gutters are also to be provided and connected to downcomers to match the existing. Colour of fascias and gutters are to match with the existing.

Roof.

The roof tiles over the extensions are to be Redland 50 Double Romans to match in with the existing. 100mm headlap to be provided for each tile. To fix the tiles to the roof 50mm * 25mm tiles battens are to be fixed to the rafters. Between the tile battens and the rafter a breathable tyvek membrane is to be placed. The roof is to be made up of 125mm x 50mm joists @ 400mm centres. The joists are to sit on a 100mm x 50mm wallplate. A further wall plate is to be mechanically fixed to the existing gable wall to the front and rear. Wall plate to be the same size as above. Rafters are to be doubled up either side of the velux windows. To insulate the roofs 100mm of knauf mineral wool is to be placed between the ceiling joists and 170mm over the joists. Ceiling joists are to be 125mm x 50mm @ 400mm centres. To the underside of the ceiling joists 12.5mm plasterboard and a 3mm plaster skim is to be provided ready for decoration. To prevent any spread of the roof lateral restraint straps are to be provided @ 1.8 meter centres and 1.2m centres on the gables Note that the builder is to ensure that the ceiling is well sealed. Guttering and downcomers to match the existing are to be provided. All the necessary cavity trays and lead flashing to be provided over the front and

rear extensions. The ceiling level in the kitchen is to remain. To form the upstand for the roof over the kitchen a softwood timber stud wall is to be constructed off doubled up flat roof joists. Size to match with the existing flat roof joists. The stud wall is to act as the ridge support for the new pitched roof. 18mm plywood to be fixed to the outer face of the stud wall and provided with two layers of under felt followed by 1 layer of green mineral felt to finish. All flashings etc. to be provided. To insulate the new wall on the flat roof 150mm extratherm insulation is to be friction fitted between the studs. The roof over the utility room is to be formed using 150mm x 50mm joists @ 400mm centres. To the underside of the joists 12.5mm plasterboard and a 3mm plaster skim is to be provided ready for decoration. To the top of the flat roof on top of the joists is to be placed 150mm of extratherm insulation mechanically fixed down on to the joists. On top of the insulation is to be mechanically fixed 18mm sheathing plyod followed by 2 layers of under felt and one layer of green mineral felt to finish. Note that the roof when finished is to be flush with the existing flat roof over the kitchen. All firings are to be provided to match with the existing pitch of the kitchen flat roof. All flashing etc. to be incorporated into the felting process of the roof.

Lintels.

The lintels over the windows are to be Birtley Supergalv CB 90 HD lintel. 150mm bearings are to be provided either side of all new lintels. New RSJ's are to be provided as indicated over the kitchen, dining room and the lounge areas. Calculations are to be provided by the client Structural Engineer. A Further beam is to be design by the clients Structural Engineer over the bi fold doors.

Windows and Doors.

All windows and doors will be double glazed with trickle vents installed for background ventilation of 8000mm square. Ventilation openings must be equal to at least $1/20^{th}$ of the total floor area of that room. All glazing must be pilkington K with a 16mm air gap and comply with approved document K of the Building Regulations. All glazing in critical locations is to be toughened or laminated glass. **All new glazing is to give a U value of 1.6 W/m^{2}K**. The final design of the windows and doors is to be confirmed by the client. Client to confirm the design on site when work commences. The velux windows is to be fitted with automatic rain sensors. Electric spurs to be provided. Window colour to be confirmed by the client on site. FD30s door with a self-closing device is to be provided between the utility room and the garage.

Heating.

The existing boiler is to be re-located from the bedroom into the garage. All heating work will be carried out by a CORGI registered Gas Safe engineer and fitted in accordance with the manufacturers instructions. The heating engineer is to check to ensure that the existing boiler is capable of accepting the additional capacity to the system. If the existing boiler cannot accept the addition then a new boiler will require fitting. The boiler is to have a SEDBUC rating of not less than 89.5 and to be provided with room thermostats and thermostatic valves to all radiators except in rooms controlled by a room thermostat. Furthermore, all pipework in unheated spaces is to be provided with insulation as required by part L of the Building Regulations. Note that the outlet of the boiler is to be provided with a wire guarding if below a height of 2 metres measured from ground level The positioning of radiators etc. are to be confirmed by the client. Note that the pipe work installations are to be agreed with the client to satisfy their needs.

General Notes.

Builder is to check all dimensions on site before the commencement of any work.

All work carried out on the boundary is to undertaken with the neighbours consent to comply with the requirements of the Party Wall Act 1996.

Any work on the boundary is to have the consent of the adjoining owners.

Access for refuse collection must be maintained.

4 No. energy efficient light fitting is to be provided in the extensions

All electrical work is to be carried out in accordance with the IEE Regulations and a person who is Part P registered.

It is the builder's responsibility for all the necessary health and safety on site. He will cater for the removal of all waste materials from site and also make good to the client's satisfaction any areas of the site which may have been damaged during the construction work.

All structural calculations are to be provided by the client.

A mechanical extractor is to be provided in the kitchen, the utility room and the en-suite capable of extracting 60 litres per second, 30 litres per second and 15 litres per second respectively.