SPECIFICATION

45 Dorset Avenue

Shields

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Specification

Foundations.

The foundations of the proposed extensions 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 parallel or through the excavations. The excavations are to be a minimum of 900mm below ground level and bearing on to firm clay strata. The excavations to the rear single storey extension are to be taken down to the invert of the drain running parallel with the proposed extension. The width of these excavations are to be 600mm. Note All excavations are to be stepped below the drain and reinforced concrete lintels bridged over the pipe. There are no trees in the area of the extension which will affect the design of the foundations.

Walls.

The walls of the extension are to be constructed of 102mm facing brickwork to match the existing with 110mm cavity with 100mm thermolite blockwork internally then plasterboard dot and dabbed with a 3mm finishing skim. The cavity is to be fully filled with drytherm insulation to achieve a U value of 0.28 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. From foundation level up to ground level there is to be a fine mix cavity fill. Horizontal D.P.C.'s are to be 150mm above ground level. 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. The new stud walls on the first floor are to be constructed of 100mm * 50mm timber studs with a minimum of 25mm glass fibre insulation between the studs with 12.5mm plasterboard either side. The plasterboard is to be finished with a 3mm plaster skim either side.

Ground Floor.

The floor of the kitchen is to be made up of 100mm layers of compacted dolomite. On top of the dolomite is to be laid 125mm of jablite insulation. To the external perimeter walls of the kitchen is to be placed 30mm of jablite insulation to prevent cold bridging. On top of the insulation is to be placed a 1200 gauge visqueen DPM. a minimum of a 300mm lap is to be provided with the DPM and the DPC of the wall construction. To complete the floor 125mm of concrete is to be laid and finish screeded to accept the clients choice of floor covering. The floor of the bay window is to be constructed as above.

First floor.

The floor construction over the kitchen is to be made up of 175mm * 50mm floor joists at 400mm centres spanning from side to side. For the sound resistance and fire resistance purposes over the kitchen 100mm glass fibre is to be placed between the joists. To form the ceiling 12.5mm plasterboard and a 3mm skim is to be provided to give the required 30 minutes fire resistance. To the room side of the first floor 22mm weyroc moisture resistant decking is the be provided for the bathroom.

Drainage.

The existing layout of the drainage is to be altered to accommodate the new extension. The existing SVP is to be relocated to the position as shown on the drawing along with all the other new drainage highlighted in green. All new gulley is to be a trapped roddable inlet gullies. The pipe work of the existing gulley is to be exposed and the pipe work extended to incorporate the position of the new gulley. The pipework is to be hepworth supersleeve and is to be bedded on pea gravel. The new drainage is to be laid to a minimum gradient of 1:40. The drainage for the bathroom is to connect into the new SVP located on the side of the extension. The rainwater from the roof is to discharge into the new trapped roddable gullies as shown on the drawing. All drainage is to be laid as above. 100mm half round gutters are also to be provided and connected to downcomers.

Roof.

The roof tiles over the extension are to match with profile of the existing tiles on the main roof. 100mm headlap to be provided for each tile. To fix the tiles to the roof 38mm * 38mm tiles battens are to be fixed to the rafters. Between the tile battens and the rafter the breathable tyvek membrane is to be placed. The roof is to be made up of 150mm x 50mm rafters over the kitchen @ 400mm centres. A wall plate 100mm x 50mm is to be rawl bolted to the existing wall. A wall plate 100mm x 50mm is to be provided on the top of the new wall construction and the rafters mechanically fixed to secure the roof construction in place. The rafters over the bathroom are to be 125m x 50mm @ 400mm centres with a ridge board sized 225mm x 50mm. The roof over the bay window and the porch will be manufactured from 100mm x 50mm timbers @ 400mm centres. The ceiling joists over the bay window and the bathroom are to be 125mm x 50mm and 75mm x 50mm over the porch and bay window @ 400m centres. All ceiling joists are to be tied in with the rafters to create triangulation. The ceiling above the single storey extension is be constructed with a vaulted roof with velux rooflights. Code GHL M08. To insulate the roof constructions 100mm glass fibre rockwool insulation is to be placed between the joists and 170mm over to achieve a U value of 0.16 W/m2K. The vaulted roof is to be insulated by placing 100mm extratherm insulation between the rafters and 50mm to the underside followed by 12.5mm plasterboard and a 3mm plaster skim ready for decoration. The builder is to ensure that a ventilation gap of 50mm is maintained between the underside of the felt and the top of the insulation. To prevent any spread of the roof lateral restraint straps at 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. If the roof is not sealed correctly then ventilation is to be provided at the eaves. This will be via a continuous 10mm ventilation strip at eaves and a 5mm continuous strip at high level if deemed necessary.. All the necessary lead soakers and code 4 lead flashings are to be provided where the new roof butts the existing brickwork. The tiles over the single storey extension to the rear are to be as per the main roof. The size of the rafters for this section of the roof are to be 175mm x 50mm @ 400mm centres. All the necessary cavity tray and lead flashings are to be provided where the new roof abuts to the existing wall construction.

Lintels.

The lintels over the window and door openings are to be Birtley Supergalv CB 90 HD lintel. There are new RSJ's to be fitted as indicated in red over the kitchen. Further RSJ's are to be placed over the front bay window and the bathroom and in the loft conversion. The sizes of the RSJ's and the structural analysis of the roof will be provided by the clients structural engineer.

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 N 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**.

Smoke Detection.

Main operated self-contained smoke detectors are to be provided on each level of the stairs. They are interconnected, and permanently wired to a separately fused circuit at the fuse board. These are indicated on the drawing.

Heating.

All boiler is to be moved to allow the loft conversion to be carried out. Location as per the drawing. 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 of the new proposed kitchen installation. New radiators are to be positioned as indicated on the drawing.

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 refuge collection must be maintained.

3 No. energy efficient light fitting is to be provided in the extension

Mechanical extractors are to be provided in the kitchen and the bathroom capable of extracting 60 litres per second, 15 litres per second respectively.

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.

Loft Conversion

Foundations.

The foundation of the party walls and span wall are to be checked for suitability and remedial works carried out if deemed necessary.

External Stud Walls

The external dwarf walls are to be constructed as 100mm * 50mm timber frame construction with 100mm Kingspan TW55 placed between the studs and a 12.5mm plasterboard and skim to be provided inside the conversion area. The dwarf wall at the rear is to be constructed off the RSJ and the dwarf wall to the front is to be constructed off the floor joists. The wall next to the party wall is to be constructed off doubled up floor joists. The makeup of the wall is to be as per above. The wall of the stairs is to be provided with 90mm kingspan fixed to the wall construction and plasterboarded over to give the required U value. The wall to the en-suite is the same construction as above.. The stud walls dividing the stairs and the bedroom are to be constructed as above on doubled up floor joists as indicated on the plan. The bottom tie of the existing trusses are to remain in place without any members being removed. Calculations for this are to be provided by the client's structural engineer to justify the removal of the truss and the purlins and confirm the sizes and the centres mentioned are acceptable.

The wall construction of the existing stairwell is to be checked to ensure 30 minutes fire resistance is present. If 30 mins isn't present the walls are to be upgrade to the required standard. The door into the conversion and habitable rooms off the stairs indicated as * are to be 30 minute fire resistant with a self-

closing device and intumescent strips and cold smoke seals fitted. All necessary window lintels are to be checked for suitability if deemed necessary.

Second Floor Construction.

The floor joists of the conversion are to be **C24 200mm * 50mm @ 400mm centres.** Between the joists wire netting is to be provided and draped between the joists to allow 100mm flexi slab RW2 to be inserted to give 30min fire resistance. All floor joists are to be doubled up under stud partitions and round the stairwell.

Drainage.

All new drainage from the en-suite is to connect into the new SVP boxed in the the corner of the lounge as shown on the plan. All drainage to be laid as above. All rainwater is to discharge as existing from the roof.

Roof.

The roof joists of the conversion are to be **150mm * 47mm C24timbers @ 400mm centres**. These joists are to be mechanically fixed to the existing rafters. The joists are to be supported off the stud wall to the front and rear as indicated on the drawing. 100mm * 50mm collar ties are to be provided at the ridge as shown on the cross section. These are to be provided on every rafter and mechanically fixed to the rafters. This will prevent any movement at the ridge level. To insulate the roofs of the conversion 100mm Kingspan TP10 is to be placed between the rafters ensuring a minimum of 50mm is maintained between the top of the insulation and the underside of the roof decking for ventilation of the roof. A further 40mm of Kingspan TW55 is to be placed on the underside prior to the 12.5mm plasterboard being placed. A 3mm plaster skim is to be provided to the plasterboard to provide the finish for decoration. The ceiling voids to the front and rear are to be provided with 100mm of thermal glass fibre insulation running with the rafters and 170mm running over.

Ventilation is to be provided in the roof via continuous 25mm ventilation at eaves or a continuous fascia vent between the tiles and fascia. 4 No. vented ridge tiles at high level.

Lintels.

Calculations are to be provided for the floor joists, the roof construction over the conversion and the new RSJ supporting the walls to the front and rear. Furthermore, calculations will be provided by the client to confirm the collar ties in the roof resists the acceptable spread. These calculations are to be provided by the client's Structural Engineer.

Windows and Doors.

All velux windows GHL M08 type sized 980mm x 780mm with top opener. 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 N of the Building Regulations. All new glazing is to give a U value of 1.6 W/m^2K. The velux roof light is to be fitted so that the window is a maximum of 1750m from eaves and a maximum of 1100mm from inside floor level. The escape windows are to have an opening of 750mm * 450mm.

Smoke Detection.

Main operated self-contained smoke detectors are to be provided on each level of the stairs. They are interconnected, and permanently wired to a separately fused circuit at the fuse board.

Heating.

The builder is to check with the manufacturer to ensure that the boiler is capable of accepting the additional capacity. If it is not acceptable then a new condensing combi boiler is to be provided. It is to be fitted by a CORGI registered GAS SAFE engineer and fitted in accordance with the manufacturers instructions provided. The boiler is to have a SEDBUC rating of not less than 86 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.

Stairs.

The new stairs into the conversion are to be 800mm wide and are to be made up as a softwood closed riser staircase. Risers are to be a maximum of 220mm and are to have a minimum going of 220mm. The stairs are to be positioned at a maximum of 42^0 and are to have a minimum headroom of 2000mm. Handrails are to be placed at 900mm above the pitch line of the stairs. The exact size dimensions of the stairs are to be measured on site when all new floor to floor heights are established. It should be noted that the guardings to the new stairs are to resist a UDL of 0.74KN/m2. The design of the stairs for the winding section of the stairs is to be as above and the going measured from the central part of the tread. A minimum of 50mm is to be provided on the narrow section of the step. All spindles in the balustrade are to be at a maximum of 100mm centres.

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1 No. energy efficient light fitting is to be provided in the conversion.

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.

* indicates 30 minute fire doors fitted with self-closing devices and intumescent strips and cold smoke seals.

30mins fire resistance is to be provide to the RSJs supporting the second floor construction. This is achieved by boxing in the beams with 12.5mm plasterboard and a 3mm plaster skim.