BUILDING
DESIGN
SOLUTIONS
NORTH EAST LIMITED

SPECIFICATION

17 Central Avenue

Whitburn

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Specification

Foundations.

The foundations of the house are to be expose if deemed necessary to confirm suitability and upgraded as necessary. The foundations of the proposed garage are to be constructed on a raft. The client is to provide the calculations for the design. All foundations are to be in accordance with B.S. 8004.

Drainage.

100mm gutters are to be provided at eaves level connected to the vertical rainwater pipe to take the rainwater off the roof into the gutters of the main property. All plastic fascias and soffits to be provided.

Roof.

The roof over the proposed dormer extension are to be made up as flat roof comprising of a GRP Sika liquid plastics covering. Colour to be confirmed by the client. Alternatively underfelt and green mineral felt can be used. The roof is to be provided with a 12mm exterior quality plywood on C24 200mm x 50mm joists @ 400mm centres. The firring for the roof are to be 100 – 0mm running from the rear of the flat roof to the front. To the top of the joists 75mm extratherm is to be provided between the joists 50mm is to be provided. All wall plates are to be mechanically fixed to the top of the wall using lateral restraint straps at 1.8m centres. The insulation is to be mechanically fixed to the joists with the 12mm plywood above. The GRP coating is then to be applied to made the roof water tight. All code 4 lead flashings are to be provided along with all the necessary lead soakers. The roof at eaves level is to be packed with insulation to prevent any cold bridging as it is designed as a warm roof. To finish the roof and eaves UPVc fascias and gutters are to be provided with the appropriate downcomers. The raking section of the roof is to be provided with new 150mm x 50mm rafters mechanically fixed alongside the existing rafters. Between the rafters is to be placed 100mm extratherm insulation and to the underside of the rafters 25mm extratherm before fixing 12.5mm plasterboard. Rafters are to be doubled up round the velux windows. Gildevale fascia abutment vents are to be provided at low level and 3 No ventilation tiles are to be provided at high level to cross vent the front and rear sections of the roof. The contractor may wish to consider renewing the underfelt to the existing roof. If this option is chosen then a Tyvek breathable membrane is to be used. This will remove the requirement to ventilate the front of the roof and either side of the dormer. The roof over the garage is to be made up of 175mm x 50mm timber @ 400mm centres. To the top of the joists firrings are to be placed 100mm – 0mm. 12.5mm OSB board is to be mechanically fixed to the joists. Lateral restraint straps are to be provided to tie the roof down to the brickwork at 1.8m centres. 100mm x 50mm wall plates are to be used and fixed to the brickwork in the appropriate manner. The water proofing of the roof is to be a Ruberoid covering AA rated. All trims to be provided. Alternatively two layers of underfelt could be used followed by a top coat of green mineral felt. All fascias and guttering to be provided and the downcomer taken to a soakaway 5m from the building. Soarkaway to be 1m deepfilled with 300mm of gravel The drain is to

discharge into the centre of the pit with a cover of visqueen then the hole backfilled and the turf reinstated.

Walls.

The new external wall of the extension is to be constructed of 100mm facing brick with a 100mm 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 34 super 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 all new cavities are to be continuous with the existing construction. Wall of the garage are to be single leaf with pillars at 3m centres.

Lintels.

All lintels on the ground and first floors are to be exposed and checked for suitability. Any lintels found to be unsuitable are to be changed accordingly. Inspection by Building Control to be carried out to confirm. Structural calculations are to be provided by the clients structural engineer to confirm the design of the roof and the steel ridge and floor beams are acceptable. Engineer to confirm sizes.

Heating.

All heating work will be carried out by a CORGI registered GAS SAFE engineer and fitted in accordance with the manufacturers instructions. The engineer is to check the existing boiler to ensure that the additional capacity is capable. If not the boiler is to be renewed. The new 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.**

Dormer Window Construction

The dormer to the rear is to be constructed of 100mm * 50mm timber frame construction with 90mm extratherm placed between the studs. On the exterior 12.5mm sheathing ply is to be provided and then sarking felt with tile finish to the front and sides of the dormer. 100mm Kingspan TW55 placed between the studs and finished internally with 12.5mm knauf wallboard and skim. To finish all internal surfaces 12.5mm plasterboard and 3mm plaster skim is to be provided. All internal stud walls are to be built off doubled up floor joists when running in line and herringbone strutting is to be provided when running across the floor joists. Lead flashings are to be provided at the junction of the pitched roof and the dormer. These are to be fixed to the plywood on the sides and front of the dormer. Care is to be taken to ensure that the flashings are placed so that the felt of the pitched

roof is tucked up behind the lead flashings and the felt on the front and side cheeks are in front of the flashing. This will ensure that there is no water ingress at the junction between the dormer and the pitched roof.

External Dwarf Stud Walls for the Conversion

The external walls are to be constructed as 100mm * 50mm timber frame construction with 90mm Kingspan TW55 placed between the studs and a further 25mm before installing the 12.5mm plasterboard. The stud walls dividing the stairs and the bedroom and the bedroom and the en-suite is to be constructed of 100mm * 50mm studs with 12.5mm plasterboard either side. Between the plasterboard 25mm of sound insulation is to be provided.

The internal surfaces for the stairs are to have 30 minutes fire resistance. .

Internal Stud Wall Construction

The internal walls are to be made up of 100mm * 50mm timber studwork and 25mm of fibre glass insulation is to be placed between the studs finished either side with 12.5mm plasterboard and skim. Furthermore, walls and ceilings of the staircase enclosure are to be provided with ½ hour fire resistance. The wall to the party wall is to consist of 100mm x 50mm stud work with the necessary insulation installed as above.

Second Floor.

The floor joists of the dormer / conversion are to be C24 225mm * 50mm @ 400mm centres. The joists are to be doubled up under stud partitions and round the stairs as indicated on the floor joist layout plan.. For sound resistance purposes a minimum of 100mm of glass fibre insulation is to be placed between the second floor joists. The floor decking is to be 22mm moisture resistant weyroc. Wall brick wall to be built up to the

Windows and Doors.

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 new glazing is to give a U value of 1.6 W/m^2K. The French door is to have the same specification as above but with clear toughened glass. four velux windows are to be provided in the raking section of the roof. All doors on the stairs are to be fitted as FD30 doors with intumescent strips and seals. These doors are marked with *. Rafters are to be doubled up either side of the velux roof lights. All flashing kits to be provided with the roof light installations.

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 plan.

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 spindles are to be placed at 100mm centres. 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 are to be a minimum of 1100mm high and are to resist a UDL of 0.36KN/m2.

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.

2 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.

A mechanical extractor is to be provided in the en-suite capable of extracting 15 litres per second.

All structural calculations are to be provided by the client's contractor.

Garage door to be a roller shutter door to the clients specification.

All the ceilings on the ground floor are to be checked to ensure they provide 30 minutes fire resistance. If on inspection the ceiling do not achieve the required fire resistance they are to be overboarded with 12.5mm plasterboard and a 3mm skim to achieve the 30 mins fire resistance.