

Leybourne Parish Council Village Hall Extension

Detailed

Specification

Of Building

Works

**PRELIMINARIES**

The contractor is to allow for the provision of suitable welfare facilities for the duration of the works as detailed in the Construction Design and Management regulations and current HSE advice.

The contractor is to allow for the disposal of all matters arising from the works in a licenced manner.

The contractor is to allow for suitable supervision of the works at all times.

**SPECIFICATION CLAUSES**

**GENERALLY:**

To be read in conjunction with the latest Building Regulations Approved Documents and contract/tender drawings.

Contractors should ensure that all elements of work comply with:

* The current Building Regulations
* Structural Engineers details
* Southern Water details (for diversion / build over).

and should allow in their tenders for all associated costs.

**SUBSTRUCTURE**

**EXISTING SERVICES:**

The Contractor shall undertake a full CAT Scan of the site to ascertain any existing services including buried cabling and drainage runs.

**FOUNDATIONS:**

*FOUNDATIONS GENERALLY:*

* Foundations are in accordance with Building Regulations Approved Document A1/2.
* Foundations to be constructed as specified by structural engineer, below the influence of drains, and or surrounding trees, on level firm natural undisturbed ground of adequate ground bearing capacity to the approval of the Building Control Officer. Refer to Alan Baxter Partnership information for details.

*SUB STRUCTURE:*

* Foundations are to be provided centrally positioned under all exterior, party and interior load bearing walls, all in accordance with Alan Baxter Partnership information.
* Walls below DPC level up to 1m deep are to be constructed with two skins of 7N/mm² 100mm or 140mm if over 1m deep concrete blocks 1:3 cement mortar in-filled with concrete to a maximum of 225mm below DPC level. Walls within perimeter / below beam and block floor ends to be 215mm wide min.
* Block and cavity width and wall tie spacing, etc, to be same as the wall above, but with a row of wall ties to support the cavity wall insulation below DPC level.
* All materials to be frost resistant.

**GROUND FLOOR CONSTRUCTION:**

*THERMAL PERFORMANCE:*

* Ground floor construction to achieve a “U” Value of **0.16 W/m²K** or better. In accordance with HRS calculations.

*CONSTRUCTION:*

* Ground floor construction will be suspended beam and block to specialist design. Beam and block floors should be level and grouted to ensure insulation boards are continuously supported.
* The damp proof membrane (minimum 300 micron / 1200 gauge polythene) should be laid with joints well lapped and folded, to prevent the passage of ground water, over the concrete floor slab, or beam and block floor prior to laying the insulation boards. The membrane should be brought up the surrounding foundation walls until it is sufficiently above the height of the wall DPC so that it will connect with or form the DPC.
* Overlay DPM with 75mm Kingspan K103 insulation (to be confirmed by HRS). The insulation boards should always be loose–laid break–bonded, with joints lightly butted. If two layers of insulation are required, they should be horizontally offset relative to each other so that, as far as possible, the board joints in the two adjacent layers do not coincide with each other.
* A strip of the insulation board (minimum 20 mm thick) should be placed vertically around the perimeter of the floor slab in order to prevent cold bridging. The top of the strip of insulation board should be level with the top of the floor screed and the bottom should be level with the bottom of the horizontal floor insulation, and closely butted up to it.
* Insulation boards should be overlaid with a polythene sheet (not less than 125 micron / 500 gauge), to prevent the wet screed penetrating the joints between the boards, and to act as a vapour control layer. Ensure the polythene sheet has 150 mm overlaps, taped at the joints, and is turned up 100 mm at the walls.
* Use sand and cement screed laid to a minimum thickness of 75 mm.

**DAMP PROOF MEMBRANES AND/OR FLEXIBLE SHEET TANKING:**

*POLYETHYLENE DAMP PROOF MEMBRANE:*

* To PIFA Standard 6/83A;1995 and Agrément certified. Thickness/gauge - 300 microns (1200 gauge).
* Lay sheets neatly and tuck well into angles to prevent bridging.
* Joint sheets with continuous strips of mastic between overlaps of not less than 150 mm and seal with tape along the edge of the upper sheet, leaving no gaps.
* Ensure that sheets are clean and dry at time of jointing. Use mastic and tape recommended for the purpose by sheet manufacturer.
* If sheets cannot be kept dry, double welted joints may be used provided they are temporarily weighted to hold the folds in position prior to laying concrete.
* Form folded welts at corners in upstands.
* Link with wall DPCs to form an impervious barrier to moisture.

*PRIMER(S):*

* Type(s) recommended for the purpose by the sheet manufacturer.
* Apply by mopping, brushing or spraying to achieve an even and full cover of the surface.
* Allow to dry thoroughly before covering.

*PIPES, DUCTS, CABLES, ETC:*

* Where these pass through sheeting, make junctions completely watertight using preformed collars fully bonded/sealed to both pipes and sheeting.

**SUPERSTRUCTURE**

Load-bearing masonry construction, which must comply with the procedures and/or the technical requirements of the Building Regulations Approved Documents and Structural Engineers details. Construction method to be in accordance with the approved drawings.

*LOAD BEARING MASONRY:*

* Cavity walls - External walls to be normally constructed in 100mm thick 5N/mm² (min) facing brickwork with a 100mm (min) thick 7.5N/mm² (min) insulation/dense block inner leaf with 12.5mm plasterboard on dabs skimmed dry lining as detailed on drawings.
* Walls to be built with 1:5/6 cement mortar and tied with BBA approved stainless steel wall ties suitable for cavity width at maximum spacing of 750mm horizontal (increased to 600mm if retaining partial fill insulation using proprietary retaining rings as manufacturers details), 450mm vertical and 225mm at reveals, verges and closings for cavities up to 100mm wide.
* Wall ties and spacing for cavities over 100mm wide to be in accordance with wall tie manufactures details.

**EXTERNAL MASONRY WALLS**

Design to BS EN 1996-1-1:2005+A1:2012 and NA to BS EN 1996-1-1:2005+A1:2012, BS EN 1996-2:2006 and NA to BS EN 1996-2:2006

*FACING BRICKWORK:*

* To external elevations, to match existing.

*MANUFACTURER:*

* To comply with the requirements of the Local Planning Authority and to match existing as closely as possible.
* Leybourne Parish Council reserves the right to approve the specification for facing bricks proposed by the Contractor, before works commence.

*MORTAR COLOUR:*

* To match existing.

*COLOUR:*

* To comply with the requirements of the Local Planning Authority and to match existing as closely as possible.
* The Contractor should seek the approval of Leybourne Parish Council as to the colour for facing bricks.

*JOINT:*

* Bucket handle joint, no recessed pointed joints are acceptable.

*AIRBRICKS:*

* Airbricks / telescopic void ventilators to be installed at 1200mm crs. Void ventilators are not to be placed under doors.

*CLAY FACING BRICKWORK:*

* Bricks - To BS EN 771-1:2011+A1:2015 and BS EN 772-2:1998 and BS EN 772-7:1998, designation FL.
* Bond - Stretcher (unless otherwise stated) Mortar: To BS EN 998-2:2016. To match existing building.
* Mortar Colour - To match existing building.
* Joint - To be agreed
* Mix - Group 3

*CONCRETE FACING BRICKWORK:*

* Bricks - To BS EN 771-1:2011+A1:2015 and BS EN 772-2:1998
* Mortar *-* To BS EN 998-2:2016.
* Mix - Group 3
* Mortar Colour - To the approval of the Local Planning Authority.
* Joint - To be agreed

*BLOCKWORK AND RENDER CONCRETE COMMON BLOCKWORK:*

* Blocks - To BS EN 771-1:2011+A1:2015 and BS EN 772-2:1998
* Mortar - To BS EN 998-2:2016.
* Mix - Group 3
* Bond - Stretcher

*TIMBER WEATHERBOARDING:*

* 18mm thick cedar, larch or 25mm thick Finnforest ThermoWood (or equal approved) boarding where indicated on the elevation drawings. Black stained to match existing.
* All timber to be legally and responsibly sourced.
* Base -studs or battens at 600 mm maximum centres Cavity behind boarding to be vented and ends of battens protected with PVC coated fibreglass insect mesh.
* Breather membrane - As noted below.
* Quality of timber and fixing - To BS 1186-2:1988
* Class - 2 or 3
* Profile –feather edge – to match existing
* Nominal size - 25 x 100 mm (or 125mm if using ThermoWood) Moisture content at time of fixing - 13 to 19%.
* Preservative treatment - CCA or organic solvent with water repellent (without water repellent where microporous decoration is specified) to British Wood Preservation and Damp Proofing Association Commodity Specification C6.
* Method of fixing to each support - Two 50 mm stainless steel annular ring shank nails.
* Where ThermoWood is being used, the boards are to be fixed fully in accordance with the Manufacturer’s written instructions.

*BREATHER MEMBRANE:*

* Material - Vapour resistant to less than 0.6MNs/g.

Self-extinguishing, Durable, Strong when wet to resist site damage. Have current Agrément Certificate and where ThermoWood is used, the membrane shall be in accordance with Finnforest's written instructions.

* Fix carefully and neatly to provide a complete barrier to water, snow and wind blown dust.
* Fix with galvanized, sherardized or stainless steel large head nails or stainless steel staples.
* Horizontal laps to be 100 mm, vertical laps 150 mm and staggered, to shed water away from substrate and structure.
* Ensure that membrane extends below lowest timber member and into reveals of openings.

*TIMBER BATTENS:*

* Regularized softwood free from decay, insect attack (except pinholes borers) and with no knots wider than half the width of the section. As Marely JB or similar.
* Size *-* 19 x 38mm minimum
* Preservative treatment - CCA as British Wood Preserving and Damp Proofing Association Commodity Specification C8.
* Moisture content at time of fixing - Not exceeding 24%. NATURAL

**CAVITIES**

*CONCRETE FILL:*

* Fill cavities with concrete up to 225 mm below ground level DPC
* Concrete mix to BS 8500-1:2015+A1:2016, BS 8500-2:2015+A1:2016, BS EN 206:2013+ A1:2016. Designated mix GEN 1 or Standard mix ST2, high workability.

*CLEANLINESS:*

* Clean off surplus mortar from joints on cavity faces as the work proceeds.
* Keep cavities, ties and DPCs free from mortar and debris with laths or other suitable means.

*WEEP HOLES:*

* Leave perpends at 900 mm centres completely open in the brick course immediately above base of cavity, external openings and stepped DPCs
* Provide not less than two weep holes over openings.

*VENTILATION DUCTS:*

* Manufacturer and Reference - Contractor’s choice.
* Install across cavity, sloping away from inner leaf, bedding fully in mortar to seal cavity.

*CAVITY CLOSERS FOR USE AT JAMBS TO DOOR & WINDOW OPENINGS:*

* Manufacturer and Reference - Contractor’s choice.
* Where used - All window and door openings in cavity walls at reveals to be closed with proprietary cavity closers, consisting of PVC-U extrusions with a CFC/HCFC free rigid insulation core, suitable for a cavity width and fixed to Manufacturer’s instructions, providing a minimum 30mm overlap between the window / door frame and the cavity closer.
* To have current Agrément Certificate.
* Cavity closers are to be installed in strict accordance with relevant accredited construction details and signed off.

*WALL TIES FOR CAVITY WALLS GENERALLY:*

* To BS EN 845-1:2013+A1:2016.
* Type - Butterfly or double triangle
* Material - Stainless steel wire to BS EN 10088-3:2014 of 18/8 composition and excluding free machining specification.
* Manufactured from stainless steel wire to BS EN 10088-3:2014 or from stainless steel strip to BS EN 10029:2010, BS EN 10048:1997 and BS EN 10051:2010 of 18/8 composition and excluding free machining specifications.
* Vertical twist wall ties to BS EN 845-1:2013+A1:2016.
* Manufactured from stainless steel strip to BS EN 10029:2010, BS EN 10048:1997 and BS EN 10051:2010 of 18/8 composition and excluding free machining specifications.

*WALL TIES FOR USE WITH PARTIAL FILL CAVITY INSULATION:*

* BBA approved for use with insulation product.

*FIXING TIES IN MASONRY CAVITY WALLS WITH FULL FILL CAVITY INSULATION:*

* Bed not less than 50mm into bed joint of each leaf. In accordance with tie manufacturers recommendations.
* Slope downwards towards outer leaf with drip centred in the cavity and pointing downwards. Do not bend ties to suit coursing.
* Evenly space at 900mm centres horizontally for cavities up to 75mm wide, 750mm centres horizontally for cavities over 75mm wide, staggered in alternate courses, and at 450mm centres vertically.
* Provide additional ties within 225mm of reveals of unbonded openings at 225mm centres vertically.

*LATERAL RESTRAINT TIES FOR MOVEMENT JOINTS:*

* Ties to be stainless steel
* One half of length to be de-bonded by using plastic sleeve before building into joint.
* Fixing centres.

*INSPECTION:*

* The Client reserves the right to inspect the cavity using a boroscope.
* The Contractor will be expected to drill the inspection holes in agreed positions and make good afterwards.

*CAVITY INSULATION:*

*Insulate cavity with 90mm Kingspan K106, installed in accordance with manufacturers’ recommendations to achieve a min U Value of 0.17W/m2K.*

*BLOWN CELLULOSE FIBRE WALL INSULATION BETWEEN STUDWORK:*

* Polystyrene batts
* Before commencing, ensure that holes in the ceiling for pipes, lighting drops, etc. are sealed and all debris has been removed.
* Ensure that eaves ventilation is unobstructed and electric cables are not covered (unless they have been sized accordingly).
* Ensure that insulation is not laid below water cistern platform(s).

*FLEXIBLE DAMP PROOF COURSES/CAVITY TRAYS DAMP PROOF COURSE:*

* Bitumen Polymer and Pitch Polymer with current Agrément Certificate.

*FLEXIBLE SHEET CAVITY TRAYS:*

* Locations and types - Horizontal abutments; Over steel lintel.
* Material - Polymer & Pitch Polymer.
* Product - Agrement certified.

*PERPEND JOINT WEEP HOLES:*

• Form - Open perpend joint.

• Locations - Through outer leaf immediately above base of cavity, at cavity trays, stepped DPCs and external openings. 75 mm above top of cavity fill at base of cavity.

• Provision - At not greater than 1000 mm centres and not less than two over each opening.

*PERPEND JOINT PLASTICS WEEP HOLES:*

* Manufacturer - Submit Proposals.
* Product reference: Submit Proposals.
* Locations - Through outer leaf immediately above base of cavity, at cavity trays, stepped DPCs and external openings.75 mm above top of cavity fill at base of cavity.
* Provision - At not greater than 1000 mm centres and not less than two over each opening.

*PREFORMED DPC/CAVITY TRAY JUNCTION CLOAKS/STOP ENDS*:

* Manufacturer - to have current Agrément Certificate
* Sloping roof abutments - Stepped cavity tray with stop end at lowest point. Ends of horizontal cavity trays - Stop ends
* Seal all laps with DPCs and/or cavity trays using adhesive/mastic in accordance with manufacturer's recommendations to ensure a fully watertight installation.

*STEPPED DPCs:*

* Where DPCs are installed in external walls on sloping ground, ensure that they are never less than 150mm above finished ground level.

**JOINTS:**

*MOVEMENT JOINTS WITH SEALANT IN EXTERNAL FACING BRICKWORK:*

* Filler -Cellular polyethylene, cellular polyurethane or foam rubber. Locate joints in unobtrusive positions. Build in as the work proceeds ensuring no projections into cavities and correct depth of joint to receive sealant system. Thickness of filler to match design width of joint.
* Sealant - Polysulphide to BS EN ISO 11600:2003+A1:2011 or silicone to BS EN ISO 11600:2003+A1:2011
* Colour - To match wall finish.

*CONTRACTION JOINTS:*

* Which will not be exposed to view to be close-butt joints formed as the work proceeds

*TOPS OF NON LOAD-BEARING WALLS*:

* Restraint - Comply with BS EN 1996-1-1:2005+A1:2012 and NA to BS EN 1996-1-1:2005+A1:2012, BS EN 1996-2:2006 and NA to BS EN 1996-2:2006 and BS EN 1996-1-2:2005. Securely fix restraints to soffit and completely fill space between wall and soffit leaving no gaps to ensure compliance with design requirements.

*PROPRIETARY SILLS/LINTELS/COPINGS/DRESSINGS SILLS:*

* To BS 5642-1:1978+A1:2014
* Finish - As indicated on drawings. Finish, colour and texture to match approved sample.
* Leave bed joints open under one piece sills except under end bearings and under any masonry mullions. On completion point with mortar to match adjacent work.

*PRECAST CONCRETE LINTELS:*

* To BS EN 845-2:2013+A1:2016, with minimum cement content of 325 Kg/m3 and with third party assurance.
* Bed on mortar used for adjacent work with bearing of not less than 150 mm.

*PREFABRICATED STEEL LINTELS:*

* To BS EN 845-2:2013+A1:2016.
* Material/finish - Austenitic stainless steel to BS EN 10088:2014 or galvanised mild steel with protection as BS EN ISO 1461:2009. Lintels which do not require a DPC cavity tray over must have stop ends.
* Bed on mortar used for adjacent work with bearing of not less than 150 mm.
* All insulants within lintels to have a global warming potential of less than 5. Evidence to be provided to the Code Assessor for section POL1 of the Code for Sustainable Homes.

*PAINTING AND DECORATING WORKS MICROPOROUS PAINT ON EXTERNAL JOINERY:*

* Where timber is not prefinished apply a microporous paint/stain
* Application - in accordance with Manufacturer’s recommendations
* Colour - To match existing
* Type - Micro porous paint, 2 Nr top coats minimum to manufacturer’s instructions.
* Preparation - To BS 6150:2006+A1:2014.
* Application - Follow manufacturer's instructions.
* Ensure preservative treatment used on joinery does not include a water repellent.

*Dulux GLOSS, EXTERNAL ON NEW JOINERY:*

* Initial coat - Primer to BS 4756:1998
* Finishing coats - Two coats undercoat, two coats gloss.

*MICROPOROUS PAINT ON EXTERNAL JOINERY:*

* Application - Follow manufacturer's instructions.
* Ensure preservative treatment used on joinery does not include a water repellent.

*PRESERVATIVE STAIN ON EXTERNAL WOODWORK:*

* Application - Follow manufacturer's instructions.

**INTERNAL WALLS**

*INTERNAL WALLS - GENERAL:*

* Internal walls between internal spaces to be timber stud construction with 12.5mm plasterboard on dabs with suitable insulation

*SOCKETS:*

* All electrical sockets and switches where located on separated walls to be staggered either side of wall. i.e. not back to back to ensure that Robust Details. Chases for services are to be kept to a minimum and filled well with mortar.

*CONSTRUCTION:*

* Internal walls are to be taken up to the underside of the roof decking.
* The junction between the separating wall and roof is to be filled with a flexible closer.

*TIMBER STUD WALLS:*

* Timber stud partitions to comprise of 89 x 38mm studs at 600mm centres generally with one row of staggered noggins at mid height.
* Some internal partitions to be clad with 9mm OSB fixed to one face for structural purposes (all to Timber Frame Manufacturers Design).

*STUD PARTITIONS TO ROOMS CONTAINING WC:*

* Provide acoustic insulation between studs, tightly fitted with closely butted joints, leaving no gaps.
* Use fastenings where necessary to prevent slumping.
* The partition is to achieve a weighted sound reduction index of not less than 38Db over the frequency range 100-3150 Hz when tested in accordance with BS EN ISO 10848-2:2006.
* Provide additional noggins / boarding as required to provide secure fixings for toilet roll holders etc and grab rails.
* Wall reinforcements should be located at a height between 300mm and 1500mm from the floor.
* manufactured to an approved national standard. Appearance class to BS EN 635-5:1999 and quality to BS EN 314-2:1993: Class 3
* Finish - Unsanded.
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C8
* Type and desired service life - CCA or Organic Solvent/60 years.
* Method of fixing - Stainless steel annular ring shank nails.

*WALL LINING ON STUD PARTITIONING:*

* Background - Timber studs at maximum 600mm centres.
* Lining - 15mm Gyproc Wallboard. (Duplex Wallboard to Bathrooms and Shower Rooms). All wallboards to have a minimum mass per unit area of 10kg/m2. 2 layers of 12.5mm Fire line board where 60 minute protection required.
* Fixing - Fix securely to all supports working from the centre of each board using the specified method of fixing using galvanised steel wire nails with flat heads to BS 1202-1:2002, size:40 x 2mm at 150mm centres. Position fixings not less than 10 mm from bound edges, 13 mm from cut/unbound edges and not less than 6 mm from the edge of the timber support.
* Finishing -Taped seamless finish
* Lightly sand cut edges of boards to remove paper burrs. Apply PVAC sealer to exposed cut edges of boards and any other plaster surfaces to which tape is to be applied.
* Fill all joints, gaps and internal angles with joint compound and cover with continuous lengths of paper tape, fully bedded.
* Reinforce external angles, stop ends, etc. with the specified bead/corner tape.
* When set, cover with joint finish, feathered out to give a flush, smooth, seamless surface. Spot nail/screw depressions with joint filler to give a flush surface.
* Fill minor indents.
* After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.
* Apply specified primer/sealer to give a continuous consistent texture to surface of boards.

*INSULATION BETWEEN STUDWORK:*

* 25mm thick (minimum) acoustic insulation with minimum density of

10kg/m³ is to be installed between studwork.

*PLASTERBOARD DRY LININGS/PARTITIONS TYPE(S) OF DRY LINING*

*WALL LINING ON TIMBER STUD PARTITIONS:*

* Background - Timber studs at maximum 600mm centres.
* Lining - 15mm wallboard where 30 minutes fire resistance required. 2 layers of 12.5mm Fire line board where 60 minute protection required.
* Fixing - Using galvanised steel wire nails with flat heads to BS 1202-1:2002; size - 40 x 2mm.
* Finishing - Taped seamless finish, or skim coat plaster finish

*WALL LINING ON ADHESIVE TO EXTERNAL WALLS/PARTITIONS:*

* Background - Concrete blockwork
* Installation - As appropriate and in accordance with manufacturers’

recommendations.

* Lining - 12.5mm wallboard, or insulation backed plasterboard.
* Finishing - Taped seamless; or skim coat plaster finish.

*ADDITIONAL SUPPORTS FOR FIXTURES AND FITTINGS:*

* Provide accurately positioned and securely fixed framing to support fixtures, fittings and services.
* After fixing boards, mark positions of framing for following trades.

*PLASTERBOARD GENERALLY:*

* To BS EN 520:2004+A1:2009, types 1 to 5 with exposed surface and edge profiles suitable to receive the specified finish.

*MOISTURE RESISTANT PLASTERBOARD:*

* To BS EN 520:2004+A1:2009, type 3 and 4 with moisture resistant core and moisture repellant paper facings.

*SKIM COAT PLASTER FINISH:*

* Skim coat - Board finish plaster to BS EN 13279-1:2008 and BS EN 13279-2:2014, Class B.
* Thickness - 2-3 mm.
* Fill and tape all joints except where coincident with metal beads.
* Trowel/float to a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

*RIGID BEADS/STOPS:*

* Material - Galvanised steel to BS EN 13658-1:2005 and BS EN 13658-2:2005

*TIMBER JOISTS:*

* Solid or Finnjoists with an Agrément certificate, suitably sized and spaced to suit spans, as per tender drawing.

*STRUTTING:*

* Strutting to be installed between floor joists as required to comply with the Building Regulations.
* Securely fix strutting between joists as follows - Joist spans of 2.5 to 4.5 m: One row at centre span. Joist spans over 4.5 m: Two rows equally spaced.

*LATERAL RESTRAINT STRAP:*

* 30mm x 5mm galvanised mild steel or stainless steel anchor straps (minimum 1200mm long) to be installed at 2000mm maximum centres and 500mm from corners, fixed across 3 joists.
* Straps are to be held tight against masonry.
* 38mm wide minimum noggins are to extend at least half the depth of the joist to be installed between joists for straps to be fixed to.
* Joists are to be blocked to wall.

*JOIST HANGERS FOR BUILDING IN:*

* To BS EN 845-1:2013, size and type to suit joist, design load and crushing strength of supporting construction.
* Material/finish to be either:
* Post galvanised steel to BS EN ISO 1461:2009, minimum zinc coating 460 g/m²
* Pre-galvanised steel to BS EN 10143:2006, minimum zinc coating 600 g/m²
* Austenitic stainless steel to BS EN 10029:2010, BS EN 10048:1997, BS EN 10051:2010 and BS EN 10090:1998.

*TIMBER TO TIMBER HANGERS:*

* Material/finish to be either:
* Post galvanised steel to BS EN ISO 1461:2009, minimum zinc coating 460 g/m²
* Pre-galvanised steel to BS EN 10143:2006, minimum zinc coating 600 g/m²
* Austenitic stainless steel to BS EN 10029:2010, BS EN 10048:1997,

BS EN 10051:2010 or BS EN 10083-3:2006 and BS EN 10090:1998.

* Size - To suit joist, design load and crushing strength of supporting construction.

*ACCESS PANELS:*

* Agree size and position with Employer before boards are fixed.
* Provide additional noggings, battens, etc., to all unsupported edges and to provide intermediate supports as necessary and fix in accordance with board manufacturer’s recommendations.

**ROOFS**

*TRUSSED RAFTERS:*

* Designed and fabricated to BS EN 1995-1-1:2004+A2:2014 and BS EN 14250:2010 by a company which is a member of the TRADA Trussed Roofing Quality Assurance Scheme and they shall be marked accordingly.
* Truss system - Galvanized Steel Plate Connectors, Agrément Certified.
* All as per tender drawings

*TRUSS CLIPS:*

* Material/finish - Stainless steel
* Fix securely with 32 x 3.5 mm galvanized or sheradized square twisted nails in every hole.

*PERMANENT BRACING OF TRUSSED RAFTERS:*

* Fix bracing and binders to every rafter, strut or tie with not less than two 75 x 3.35 mm galvanized round wire nails.
* Any lap joints must be side by side extending over and nailed to at least two truss members.
* Where a binder crosses a brace, interrupt and plate the binder.

*VERTICAL RESTRAINT STRAPS:*

* Material/finish - Galvanised mild steel or stainless steel, where required.

*LATERAL RESTRAINT STRAPS:*

* Material/finish - Galvanised mild steel or stainless steel, where required.

*WALL PLATES:*

* Ensure that wall plates are:
* Positioned and aligned to give the correct span and level for trusses, joists, etc.
* Fully bedded in fresh mortar.
* In lengths of not less than 3 m with half lap joints.

*ORGANIC SOLVENT PRESERVATIVE TREATMENT TO ROOF TIMBERS:*

* Moisture content of timber at time of treatment to be as specified for the component at time of delivery. After treatment, timber to be surface dry before use.
* Application - Double vacuum/low pressure.
* Organic solvent type as British Wood Preserving and Damp-proofing Association Commodity Specification C8.

*VENTILATION OF ROOF SPACE:*

* Roof spaces to be ventilated to fully comply with Building Regulations.

*FASCIAS/BARGEBOARDS/ SOFFITS:*

* Type - Timber
* Colour *– to match existing*

*WROT TIMBER FOR FASCIAS/BARGEBOARDS:*

* Quality of timber - To BS 1186-3:1990: Class 2. Moisture content at time of fixing: 13 to 19%.
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C5.
* Type/desired service life - Organic solvent/60 years (ensure compatibility with decorative coating system).
* Method of fixing to each support - Stainless steel lost head nails.

**TYPE(S) OF TIMBER:**

*GRADED SOFTWOOD FOR STRUCTURAL USE GENERALLY:*

* Strength - Graded to BS 4978:2007+A1:2011 or BS EN 14081-1:2016, BS EN 14081-2:2010+A1:2012 or other national equivalent and so marked.
* Surface finish *-* Sawn generally, regularised for floor joists.
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C 8
* Type/desired service life -CCA or Organic Solvent/60 years.

*UNGRADED SOFTWOOD FOR NON STRUCTURAL FRAMING:*

* Quality - Free from decay, insect attack (except pinholes borers) and with no knots wider than half the width of the section.
* Surface finish - Sawn generally, regularised for studding in partitions.
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C8
* Type/desired service life - CCA or Organic Solvent/60 years.

*WROT TIMBER FOR FASCIAS/BARGEBOARDS:*

* Quality of timber - To BS 1186-3:1990 Class 2. Moisture content at time of fixing: 13 to 19%.
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C5.
* Type/desired service life - Organic solvent/60 years (ensure compatibility with decorative coating system).
* Method of fixing to each support - Stainless steel lost head nails.

PLYWOOD GENERALLY:

* Manufactured to an approved national standard - Appearance class to BS EN 635-1: 1995; Bond quality to BS EN 314-2:1993:Class 3
* Finish - Unsanded.
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C8
* Type and desired service life - CCA or Organic Solvent/60 years. Method of fixing - Stainless steel annular ring shank nails

*PLYWOOD TO RECEIVE DECORATION:*

* Manufactured to an approved national standard - Appearance class to BS EN 635-1:1995; Bond quality to BS EN 314-2:1993: Class 3
* Finish - Sanded
* Preservative treatment - As British Wood Preserving and Damp-proofing Association Commodity Specification C8
* Type and desired service life - Organic Solvent/60 years (ensure compatibility with decorative coating system).
* Method of fixing - Stainless steel lost head nails.

*JOINTING/FIXING GENERALLY:*

* Fasteners are to comply with relevant British Standards.
* Black Bolts and Nuts - BS 4190:2014.
* Black Cup and Countersunk Head Bolts and Nuts - To BS 4933:2010

*WASHERS:*

* Plain - To BS 4320:1968, spring to BS 4464:1969.
* Material and finish - to match bolts.
* Dimensions when seated directly on timber surfaces (unless specified otherwise) - Diameter/side length: not less than 3 times bolt diameter; thickness: not less than 0.25 times bolt diameter.

*JOINTING/FIXING GENERALLY*:

* Fastenings are to comply with relevant British Standards.

*BOLTED JOINTS:*

* Locate holes accurately and drill to diameters as close as practical to the nominal bolt diameter and not more than 2 mm larger.
* Place washers under all bolt heads and nuts that would otherwise bear directly on timber. Use spring washers in locations which will be hidden or inaccessible in the completed building.
* Tighten bolts so that washers just bite the surface of the timber. Ensure that at least one complete thread protrudes from the nut.
* Check at agreed regular intervals up to Practical Completion and tighten as necessary to prevent slackening of joints.

*BOLTED JOINTS WITH CONNECTORS:*

* Connectors - To BS EN 912:2011
* Assemble joints without crushing timber, deforming washers or overstressing bolts.

*ANTI-CORROSION FINISH(ES) FOR FASTENERS:*

* To BS EN ISO 1461:2009 for galvanizing, with internal threads tapped and lightly oiled following treatment.
* To BS 7371-3:2009, BS EN ISO 4042:2000 and passivated, for zinc plating.
* Where no particular treatment is specified, select from the above to suit service conditions.

*ADDITIONAL SUPPORTS:*

* Where not shown on drawings, position and fix additional studs, noggings or battens for appliances, fixtures, edges of sheets, etc., in accordance with manufacturer’s recommendations.
* All additional studs, noggings or battens to be of adequate size and have the same treatment, if any, as adjacent timber supports.

*ROOF FINISHES:*

* Roof – Kingspan Trapezoidal Wall KS1000/2000 RW
* Depth of core to be sufficient to achieve U value as dictated by HRS Services – 0.18W/m2K
* Pitch - As indicated on drawings and to match existing
* Colour and reference - The Employer/Client reserves the right to approve the finish proposed by the Contractor.

*ROOF EDGES/JUNCTIONS/FEATURES:*

* Generally:
* Form details using the specified and manufacturer's recommended fittings and accessories; do not improvise without approval.
* Exposed fittings and accessories must match colour and finish unless specified otherwise.

**INTERNAL FINISHES**

**PLASTERBOARD** **DRYLINING CEILINGS:**

*CEILING LINING ON TIMBER JOISTS:*

* Background - Timber joists or trussed rafters at maximum 600mm centres.
* Lining - 15mm Wallboard with a density of 10kg/m2 where 30 minutes fire resistance is required. 2 layers of 12.5mm fireline board with staggered joints where 60 minute fire resistance is required.
* Fixing - Using galvanised steel wire nails with round flat heads to BS 1202-1:2002, size 40 x 2mm.
* Finishing - Textured plastic compound, or skim coat plaster finish.

*CEILING LINING ON TRUSSED RAFTERS:*

* Background - Timber joists or trussed rafters at maximum 600mm centres.
* Lining - 15mm Wallboard.
* Fixing - Using galvanised steel wire nails with round flat heads to BS 1202-1:2002, size 40 x 2mm.
* Finishing - Textured plastic compound, or skim coat plaster finish

*ADDITIONAL SUPPORTS FOR FIXTURES AND FITTING:*

* Provide accurately positioned and securely fixed framing to support fixtures, fittings and services. After fixing boards, mark positions of framing for following trades.

*ADDITIONAL SUPPORTS FOR BOARD EDGES AND PERIMETERS:*

* Provide additional framing, accurately positioned and securely fixed, to give full support to board edges and lining perimeters in accordance with board manufacturer's recommendations.

*PLASTERBOARD GENERALLY:*

* To BS EN 520:2004+A1:2009, types 1 to 5 with exposed surface and edge profiles suitable to receive the specified finish.

*MOISTURE RESISTANT PLASTERBOARD:*

* To BS EN 520:2004+A1:2009, type 3 and 4 with moisture resistant core and moisture repellent paper facings.

*DRY LINING GENERALLY:*

* Fixing, jointing and finishing materials and accessories, where not specified otherwise, to be as recommended by the board manufacturer.
* Handle and store materials in accordance with BS 8212:1995, section 5. Do **not** use damaged boards.
* Use operatives properly trained for dry lining work and who have attended a recognised training scheme.
* Fix boards only in areas which have been made weathertight. Prevent frost damage.
* Cut boards neatly and accurately without damage to core or tearing of paper facing. Keep cut edges to a minimum and position at internal angles wherever possible. Mask with bound edges of adjacent boards at external corners.
* Fix boards securely and firmly to suitably prepared and accurately levelled backgrounds. Set heads of fastenings in a depression; do not break paper or gypsum core. Finish neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.

*CEILINGS:*

* Fix boards to ceilings before walls and partitions. Fix boards with bound edges at right angles to supports and with ends staggered in adjacent rows.

*FIRE STOPPING TO FIRE RESISTING PARTITIONS/WALLS:*

* Seal any gaps at junctions of linings and cavity barriers with perimeter abutments, service penetrations, etc. using tightly packed mineral wool or approved intumescent sealant, to prevent penetration of smoke and flame.

*JOINTS BETWEEN BOARDS:*

* Tapered edged plasterboards - Lightly butted. Leave a 3 mm gap where cut/unbound edges occur.
* Square edged plasterboards - to be finished with textured plastic compound, 3 mm gap.

*JOINTS:*

* For two layer boarding, stagger joints between layers.

*FIXING PLASTERBOARD TO TIMBER SUPPORTS:*

* Fix securely to all supports working from the centre of each board using the specified method of fixing at the following maximum centres:
* Nails - 150 mm centres.
* Position fixings not less than 10 mm from bound edges, 13 mm from cut/unbound edges and not less than 6 mm from the edge of the timber support.

*TAPED SEAMLESS FINISH TO PLASTERBOARD:*

* Lightly sand cut edges of boards to remove paper burrs. Apply PVAC sealer to exposed cut edges of boards and any other plaster surfaces to which tape is to be applied.
* Fill all joints, gaps and internal angles with joint compound and cover with continuous lengths of paper tape, fully bedded. Reinforce external angles, stop ends, etc. with the specified bead/corner tape.
* When set, cover with joint finish, feathered out to give a flush, smooth, seamless surface.
* Spot nail/screw depressions with joint filler to give a flush surface.
* Fill minor indents. After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.
* Apply specified primer/sealer to give a continuous consistent texture to surface of boards.

*SKIM COAT PLASTER FINISH:*

* Skim coat - Board finish plaster to BS EN 13279-1:2008 and BS EN 13279-2:2014, class B.
* Thickness – 2-3 mm.
* Fill and tape all joints except where coincident with metal beads.
* Trowel/float to a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

*PAINTING AND DECORATING*:

* Ceilings Generally:
* Type - Vinyl Matt emulsion
* Emulsion - Water-borne emulsion paint to BS 7719: 1994.
* Manufacturer - Glidden or Dulux
* Surfaces - Plaster/plasterboard with surface suitable for direct decoration.
* Preparation - To BS 6150:2006+A1:2014, Section 4.
* Initial coat - One thinned coat applied prior to commencement of second fix works.
* Finishing coat - Two full coats.
* Colour - Brilliant white

*CEILINGS TO KITCHEN & WC’s:*

* Type - Acrylic eggshell
* Emulsion - Water-borne acrylic paint.
* Manufacturer - Glidden or Dulux
* Surfaces - Plaster/plasterboard with surface suitable for direct decoration.
* Preparation - To BS 6150:2006+A1:2014, Section 4.
* Initial coat - One thinned coat applied prior to commencement of second fix works.
* Finishing coat - Two full coats.
* Colour - Brilliant white

**WINDOWS:**

**WINDOWS GENERALLY:**

* Windows dimensions and type as indicated on drawings and in accordance with the local Planning Authority & Building Regulations / FENSA requirements (as appropriate).
* Openable parts of windows as indicated on drawings to provide purge ventilation to comply with Building Regulations.
* PVC-U windows to conform with BS 7412:2007
* All glazing in critical locations to incorporate manifestation in accordance with Approved Document K – Section 7. Proposals to be submitted to the client for review / approval.

*GLAZING:*

* Hermetically sealed double glazing units to BS EN 1279, as appropriate, with clear double glazing with the exception of the WC’s, which should be obscure
* All glazing to have a minimum of 16mm wide air gap.
* 6.4mm thick laminated glass to be installed in windows adjacent to doors, in ground floor windows and windows provided for emergency egress and those easily accessible above ground floor to comply with both Building Regulations Secured By Design requirements.
* Where glazing in windows is below 800mm from F.F.L. or within 300mm to the side of a door opening to a height of 1500mm, glazing to be laminated glass to conform to BS 6206:1981 and marked accordingly.

*THERMAL PERFORMANCE:*

* All windows to achieve a “U” Value of **1.5 W/m2K** or better.

*EGRESS WINDOWS:*

* Any window provided for emergency egress purposes in accordance with the Building Regulations Approved Document B1 Section 2 to have an unobstructed openable area of at least 0.33m2 and at least 450mm high by 450mm wide. The bottom of the openable area should be not more than 1100mm above the floor.
* Where required windows to have either removable central mullion or mullions planted to one casement to achieve the required unobstructed opening width.

*SECURED BY DESIGN:*

* Provide independently certified evidence that all specified variants of components comply with specified performance requirements and the 'Secured by Design' performance standards.
* Windows to be secured to the fabric of the building in accordance with manufacturer’s instructions. Anti-lift blocks to be provided at the top and bottom of the frame to help prevent against forced attack.
* All windows to be complete fitted with reflex hinges, shoot bolt espagnolette locking systems.

*PVC-U WINDOWS:*

* Install PVC-U Windows in accordance with the British Plastics Federation window installation guide, reference COP 3-B.
* Manufactured from reinforced white PVC-U extruded hollow profiles under a third party certified quality assurance scheme. (e.g. BBA or UKAS accredited body such as BSI)
* Fabricated windows to conform with BS 7412:2007 or a current Agreement Certificate including Enhanced Resistance to Intrusion issued by BBA. Testing to PAS 24:2016 must be carried out at a UKAS accredited test house.
* White extruded PVC-U hollow profiles to conform with BS 514:2000 and BS EN 12608-1:2016 or a current Agrément Certificate issued by BBA.
* Reinforcement to be stainless steel, aluminium or pre-galvanized (min G275) mild steel.
* Exposure category (Design wind pressure): 2000 Pa
* Dimensions - The Contractor will be responsible for taking sufficient on site measurements to ensure the correct fittings of Windows.
* Sealing - All window frames to be sealed around their perimeter with a silicon mastic sealant (colour white). Sealant to be provided to front and back of all new windows frames to minimize air leakage.
* Priming/Sealing - Before fixing components ensure that surfaces of timber which will be inaccessible after installation are primed or sealed as specified.

*FIXING OF PVC-u FRAMES:*

* Using screws, cramps or lugs as recommended by window manufacturer.
* When not predrilled or specified otherwise, position fixings 150-250mm from each end of jamb, adjacent to each hanging point of opening lights, but no closer than 150mm to a transom or mullion centre line, and at maximum 600mm centres.

*SEALANT JOINTS:*

* Sealant - Gun applied silicone or polysulphide mastic, colour matched to external wall finish.
* Prepare joints and apply sealant. Finish triangular fillets with a flat or slightly convex profile.

*GUARANTEE:*

* All windows must carry a minimum 10 Year guarantee against manufacturing defects colour stability, bow, warping, water ingress with a written guarantee supplied upon Practical Completion.

*EVIDENCE OF PERFORMANCE:*

* Provide independently certified evidence that all specified variants of components comply with specified performance requirements and the ACPO 'Secured by Design' performance standards.

*WINDOW IRONMONGERY:*

* High level adjustable flush trickle ventilators incorporating external weather proofing canopy to provide background ventilation in accordance with the Building Regulations. Colour to match windows. Provide as follows –
* A1 - Small Hall - 18,500mm² equivalent free area
* A2 – Kitchen - 2,500mm² equivalent free area
* A14 – Kitchen - 2,500mm² equivalent free area
* A20 – Male WC – 2,500mm² equivalent free area
* A19 – Dis WC – 2,500mm² equivalent free area
* Hinges or window design to permit safe cleaning from internally - refer to BS 8213-1:2004.
* Window handles and key locking hardware to all ground floor windows not providing emergency egress. Key operated locks must have a key to lock function - push to lock mechanisms and automatic locking mechanisms which require a key to unlock must not be used. Refer to elevation drawings for identification and location.
* Restrictor to limit initial opening to 100mm with a release mechanism which is inaccessible to a young child or otherwise difficult for a young child to operate.
* Hinges and window restrictors to be of corrosion resistant stainless steel, fixed with 300 series austenitic (non-magnetic) stainless steel screws or other specification to meet PAS 24:2016 performance standards if required.
* Fixing - In accordance with relevant Accredited Construction Details. General: Assemble and fix carefully and accurately using fastenings with matching finish supplied by ironmongery manufacturer. Prevent damage to ironmongery and adjacent surfaces. At completion check, adjust and lubricate as necessary to ensure correct functioning.

**GENERAL GLAZING:**

*WORKMANSHIP GENERALLY:*

* Glazing generally - to BS 6262:2005 and to “Secured by Design”

performance standards for external doors and windows.

* The glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
* Panes/sheets to be accurately sized, with clean, undisfigured surfaces and undamaged edges.
* Avoid contact between glazing panes/units and alkaline materials such as cement and lime.
* Keep materials dry until fixed. Keep insulating glass units and plastics glazing sheets protected from the sun and away from heat sources.
* Ensure that glass/plastics, surround materials, sealers, primers and paints/clear finishes to be used together are compatible. Comply with glazing and sealant manufacturers' recommendations.

*GLASS GENERALLY:*

* To BS 952-1:1995 and the relevant part(s) of: BS EN 572:2012 for basic soda lime silicate glass. Free from scratches, bubbles, cracks, rippling, dimples and other defects.
* Panes/sheets to be clean and free from obvious scratches, bubbles, cracks, rippling dimples and other defects.
* Edges generally undamaged. Sheels and chips not more than 2mm deep and extending not more than 5 mm across the surface are acceptable if ground out.

*EDGE TAPES TO INSULATING UNITS:*

* Report to Employer/Client any damage to edge tapes. Obtain approval of proposed method of repair.

*BEAD FIXING WITH PINS:*

* Space pins evenly at not more than 150 mm centres, and within 50 mm of each corner. Punch pins just below the timber surface.

*BEAD FIXED INSULATING GLAZING TO PVC-U WINDOWS/DOORS:*

* Pane material - Insulating glass units to BS EN 1279, as appropriate, hermetically sealed and kitemark certified. Laminated glass (where specified) to BS EN 12600:2002
* Surround/bead - Internal or external beading as supplied by window manufacturer.
* Bead fixing - Clipped.
* Glazing system - Insert gasket sections. Where bead is fitted externally glass units are to be fixed with security glazing tape or security clips.
* Locate insulating unit centrally in surround using setting and location blocks.
* Install gaskets and fit beads as recommended by the frame manufacturer. Cut gasket sections over length to ensure a tight fit without gaps at corners.
* Ensure that drainage and ventilation holes are not obstructed.

**DOORS**

**EXTERNAL DOORS GENERALLY:**

* Door dimensions and type as indicated on drawings and in accordance with the Local Planning Authority & Building Regulations requirements.

*SECURED BY DESIGN:*

* All external doorsets to be successfully tested to PAS 24:2016 “Doors of enhanced security” with high quality police approved modern three point espagnolette locking systems complete with lever handles and laminated glass to comply with SBD requirements.
* Door sets to be secured to the fabric of the building in accordance with manufacturer’s instructions.

*THERMAL PERFORMANCE:*

* All door sets to achieve a “U” Value of **1.5 W/m2K** or better

*GLAZING TO DOORS & SIDELIGHTS:*

* Double glazed units with 6.4mm laminated outer pane, 15.5mm chrome spacer bar and 4mm toughened inner pane.
* Glazing to be of a cassette system which enables the double glazed unit to be replaced if required.
* The size of the double glazed units is to remain a standard size for each type of door style.
* Cassettes are to be coloured to match the skin of the door, Glass to be Pilkington “Cotswold” Obscured glass or as specified by Employer/Client. Note - Pilkington “K‟ Glass, or similar, is required to meet current Building Regulations requirements where installed, this includes toughened / laminated safety glass.
* All necessary beads, packers etc., for the double glazed sealed units are to be supplied by the window fabricator.
* Where glazing in doors is below 800mm from F.F.L. or within 300mm to the side of a door opening to a height of 1500mm, glazing to be laminated glass to conform to BS 6206:1981 and marked accordingly.
* Manifestation of the glazing is required in critical locations. Refer to door elevations.

*GUARANTEE:*

* All door sets / combination frames must carry a minimum 10 Year guarantee against manufacturing defects colour stability, bow, warping, water ingress with a written guarantee supplied upon Practical Completion.

*EXTERNAL TIMBER DOORS*:

(Only to be used if “U” Value of **1.5 W/m2K** or better can be achieved, otherwise use composite doors)

* Pattern - As indicated on drawings
* Timber to receive paint finish to BS EN 942:2007, Wood species - Class J10 for glazing beads and the like. Class J40 for all other members.
* Preservative treatment - Organic solvent (without water repellent) as British Wood Preserving and Damp-proofing Association Commodity Specification C5.
* Desired service life - 30 years
* Timber to receive stain finish - to BS EN 942:2007 Knots on arrises and finger jointing will not be permitted where exposed to view. Preservative treatment: Organic solvent (without water repellant) as British Wood Preserving and Damp-proofing Association Commodity Specification C5.
* Leaf size - As previously noted.
* Adhesive - Synthetic resin to BS EN 301:2013 and BS EN 302-1:2013, type WBP
* Workmanship - To BS 1186-2:1988.
* Moisture content on delivery - 13 to 19%
* Accuracy - to BS 4787-1:1980.

*IRONMONGERY TO EXTERNAL DOORS THRESHOLDS:*

* For disabled access to meet current Building Regulations using proprietary seals.
* Preference - Exitex or equal approved.
* Extruded aluminium incorporating weatherboard and replaceable gaskets, maximum height of threshold section 15 mm and to comply with Part M of Building Regulations and Lifetime Homes criteria 04.
* Fixing - Follow manufacturer's instructions/recommendations.
* Dimension between top of threshold and finished floor level to allow for a carpet zone of 15mm.

*LOCKS:*

* To comply with PAS 24:2016. High quality police approved modern three point espagnolette locking systems complete with lever handles.
* Doors to be fitted with a multi-point locking system incorporating a stainless steel cover plate to BS EN 10029:2010.
* Lock gearboxes must be screw fixed to connecting rod mechanism, (riveted systems are not acceptable).
* Locks must be tested (with reports available for inspection) for an anticipated 30 year life span, be guaranteed for 10 years, including lock and handles, and every lock must be stamped with Secure By Design logo to prove testing compliance.
* Lock handles and any additional furniture should be matching, in both colours and finish.

*GENERAL:*

* Door stops - To be provided where required to prevent doors from damaging finishes, fittings, etc.

*WINDOW BOARDS:*

* Quality of timber - To BS 1186-3:1990, Class - 2 and 3 or MDF to BS EN 316:2009 and BS EN 321:2002 and BS EN 322:1993.
* Moisture content at time of fixing - 8 to 10%
* Finished thickness - Minimum 20 mm.

*PAINTING AND DECORATING DULUX GLOSS ON NEW JOINERY:*

* Location - new timber except where factory applied pre-finished.
* Initial coat - Primer to BS 4756:1998
* Finishing coats - One coat undercoat, one coat gloss.

**INTERNAL DOORS:**

*INTERNAL TIMBER DOORS:*

* FD30
* Type - Howdens Developer range with linings and stops or as specified by Leybourne Parish Council – (oak foil DIF17)

*FIRE RESISTING TIMBER DOOR/DOORSETS & ROLLER SHUTTERS:*

* Provide evidence in the form of a product conformity certificate, test report or engineering assessment that each fire door/doorset supplied will comply with the specified requirements for fire resistance if tested in accordance with BS 476-22:1987 or BS EN 1634-1:2014. Such certification must cover door and frame materials, glass and glazing materials and installation, essential and ancillary ironmongery, hinges and seals.
* Completely fill gap between back of frame and reveal with plaster or mineral wool packing.

*DOOR LININGS WITH PLANTED STOPS:*

* Timber to BS EN 942:2007, Class - 2 and 3.
* Moisture content on delivery - 8 to 12%.
* Lining fixing - Screws and pelleting.
* Stop fixing - Screws and pelleting or pinned to door linings as appropriate 150mm from top and bottom and at 300mm maximum centres.

*MOISTURE CONTENT:*

* During delivery, storage, fixing and thereafter to Practical Completion maintain conditions of temperature and humidity to suit specified moisture content(s) of timber components.
* When instructed by CA, test components with an approved moisture meter used in accordance with manufacturer's recommendations.

*PRIMING/SEALING:*

* Before fixing components ensure that surfaces of timber which will be inaccessible after installation are primed or sealed as specified.

*PREPARED OPENINGS:*

* Ensure that DPCs are positioned correctly in relation to frames and prevent displacement during fixing operations.

*FIXING CENTRES FOR TIMBER FRAMES*:

* When not predrilled or specified otherwise, position fixings 150 mm from each end of jamb, adjacent to each hanging point and at 600 mm maximum centres.

*LOOSE THRESHOLDS:*

* Fix 150 mm from each end and at 600 mm maximum centres.

*SEALANT JOINTS:*

* Sealant - Gun applied silicone or polysulphide mastic, colour matched to external wall finish.

*INTERNAL DOOR IRONMONGERY:*

* Furniture - Mortice latch to BS 12209:2016 and “D” lever furniture.
* Manufacturer and reference - Sample to be agreed.
* Hinges - 1½ pair 75 mm butts to BS 1935:2002 (medium duty). Where not specified otherwise, position hinges with centre lines 250 mm from top and bottom of door leaf. Position third hinge (where specified) on centre line of door leaf. Position hinges for fire resisting doors in accordance with door leaf manufacturer's recommendations.
* Other requirements:
* Fit door handles 900 mm above floor level.
* Bathrooms and W.C. door furniture must incorporate a privacy latch capable of emergency opening from outside.
* Provide doorstops where doors open against adjacent walls or fixtures. Provide 20 mm minimum high hardwood thresholds beneath doors.
* Fit automatic self-closing device to doors requiring a fire resistance to comply with Building Regulations.
* Provide a 75mm necked bolt or a flush bolt to one door leaf where pairs of doors are fitted.

*FIXING IRONMONGERY GENERALLY:*

* Assemble and fix carefully and accurately using fasteners supplied by the ironmongery manufacturer, with matching finish and equivalent corrosion resistance.
* Holes for components to be no larger than the minimum required for satisfactory fit/operation.
* Protect ironmongery and adjacent surfaces as necessary to prevent damage.
* At completion, check, adjust and lubricate as necessary to ensure correct functioning of all moving parts.

*FIXING IRONMONGERY TO FIRE RESISTING DOOR ASSEMBLIES:*

* Fix all items in accordance with door leaf manufacturer's recommendations.
* Ensure that, when fixed, ironmongery does not compromise the integrity of the assembly as established by testing/assessment.
* Cut holes for through fixings and components accurately. Clearances must not be greater than 8 mm unless protected by intumescent paste or similar.
* Coat lock/latch cases for FD60 doors with intumescent paint or paste before fitting.

*LOCATION OF HINGES:*

* Where not specified otherwise, position hinges with centre lines 250 mm from top and bottom of door leaf.
* Position third hinge (where specified) on centre line of door leaf.
* Position hinges for fire resisting doors in accordance with door leaf manufacturer's recommendations.

*ARCHITRAVES:*

* Quality of timber - To BS 1186-3:1990. Class: 2 and 3 or MDF to BS EN 316:2009 and BS EN 322:1993.
* Moisture content at time of fixing - 8 to 10% Profile: Pencil rounded to front edges.
* Finished size - 13 x 45 mm (minimum) or 13 mm (minimum) quadrant where full architraves cannot be achieved.

*PAINTING AND DECORATING DULUX GLOSS ON NEW JOINERY:*

* Initial coat - Primer to BS 4756:1998
* Finishing coats - One coat undercoat, one coat gloss.

**FLOOR FINISHES:**

**INTERNAL JOINERY:**

*SKIRTINGS:*

* Profile - Pencil rounded to front edges.
* Quality of timber - To BS 1186- 3:1990. Class: 2 and 3 or MDF to BS EN 316:2009.
* Moisture content at time of fixing - 8 to 10%
* Finished size - 13 x 95 mm (minimum).

**PAINTING AND DECORATING:**

*Dulux GLOSS ON NEW JOINERY:*

* Initial coat - Primer to BS 4756:1998
* Finishing coats - One coat undercoat, one coat gloss.

*SLIP RESISTANT VINYL SHEET FLOORING:*

* Locations - Kitchens, Bar area, stores and main hall or as specified by Leyborne Parish Council
* Type - Slip Resistant Vinyl sheet
* Manufacturer/reference - Polysafe Standard or equal approved laid strictly in accordance with the Manufacturer’s written recommendations.
* Colour - To be decided by Leybourne Parish Council
* Base - Trowelled screed or rigid sheet flooring
* Flooring roll - to BS EN ISO 10874:2012
* Seam welded joints.
* Special requirements - Seal to skirtings at perimeter and at junctions with kitchen fittings with silicone mastic.
* Special requirements - Seal to skirtings at perimeter and at junctions with sanitary fittings with silicone mastic or form cove.

*VINYL SHEET FLOORING:*

* Locations - All floor locations where the background is a timber floating floor except where a Slip Resistant Vinyl Sheet is required (see above) or as specified by Employer/Client
* Type - Vinyl sheet.
* Manufacturer/reference - Polysafe Standard XL or equal approved.
* Colour - To be decided by Employer/Client
* Base - rigid sheet flooring
* Flooring roll - to BS EN ISO 10874:2012
* Seam welded joints.
* Special requirements - Seal to skirtings at perimeter with silicone mastic.

*PREPARING BASES – DAMPNESS:*

* Where coverings are to be laid on new wet-laid bases:
* Ensure that drying aids have been turned off for not less than 4 days, then
* Test for moisture content using an accurately calibrated hygrometer in accordance with BS 5325:2001, Annex B or BS 8203:2001+A1:2009, Annex A.
* Take readings in all corners, along edges, and at various points over the area being tested.
* Do not lay coverings until all readings show 75% relative humidity or less.

*COLOUR CONSISTENCY:*

* In any one area/room use only coverings from the same production batch to prevent banding or patchiness resulting from colour/flash variation.

*ADHESIVE FIXING GENERALLY:*

* Adhesive: when not specified otherwise, type to be as recommended by covering manufacturer or, in the absence of such recommendation, type to be approved.
* Use a primer where recommended by adhesive manufacturer. Allow to dry thoroughly before applying adhesive.
* Spread adhesive evenly and lay covering, pressing down firmly and rolling laterally and transversely (if recommended) to ensure full contact and a good bond overall. Re-roll (if recommended) within 30 minutes.
* Remove all surplus adhesive from exposed faces of coverings as the work proceeds.
* Trowel ridges and high spots caused by particles on the substrate will not be accepted.

*SEAM WELDING:*

* Do not commence welding of coverings until a minimum of 24 hours after laying or until adhesive has completely set.
* Form a neat, smooth, strongly bonded joint, flush with finished surface.

*FINISHING VINYL FLOORING AT COMPLETION:*

* Wash floor using mops dampened with water containing neutral (ph 6-9) detergent. If necessary, lightly scrub heavily soiled areas using a brush or synthetic fibre web pad.
* Thoroughly rinse with clean water, removing surplus to ensure no damage to adhesive, and allow to dry.
* Apply two coats of emulsion polish of a type recommended by covering manufacturer.

*SUITABILITY OF BASES:*

* Before starting work ensure that backgrounds/ bases:
* Are sufficiently flat to permit specified flatness/regularity of finished surfaces bearing in mind the permissible minimum and maximum thicknesses of the bedding material.
* Have been allowed to dry out by exposure to the air for not less than the following:
	+ *Concrete slabs:* 6 weeks.
	+ *Cement:sand screeds:* 3 weeks.

*SETTING OUT:*

* Joints to be true to line, continuous and without steps.
* Joints on walls to be truly horizontal, vertical and in alignment round corners.
* Joints in floors to be parallel to the main axis of the space or specified features.

*SIT-ON TILE SKIRTINGS:*

* Bed solid to wall with cement based adhesive after laying floor tiles. Ensure joints in skirtings match and align with joints in floor tiling.

*THICK BED ADHESIVE - SOLID (FLOORS):*

* Apply floated coat of adhesive to dry base and comb the surface with the recommended solid bed trowel.
* Apply adhesive to backs of tiles as necessary to fill any depressions or keys.
* Press tiles firmly into position to give finished bed thickness within the range recommended by the manufacturer.

**PAINTING & DECORATING**

**PAINTING/CLEAR FINISHING:**

*INTERNAL WALLS GENERALLY:*

* Type - Vinyl Matt emulsion or as specified by Leybourne Parish Council – Dulux or equal approved
* Emulsion - Water-borne emulsion paint to BS 7719: 1994.
* Manufacturer - Glidden or Dulux or as specified by Employer/Client
* Surfaces - Plaster/plasterboard with surface suitable for direct decoration.
* Preparation - To BS 6150:2006+A1:2014.
* Initial coat - One thinned coat applied prior to commencement of second fix works.
* Finishing coat - Two full coats.
* Colour – Magnolia, or as specified by Employer/Client, to BS 3900-B15:1987

*INTERNAL WALLS TO KITCHEN AND WC:*

* Type - Acrylic eggshell or as specified by Employer/Client
* Emulsion - Water-borne acrylic paint to BS 7719: 1994
* Manufacturer - Glidden or Dulux or as specified by Employer/Client
* Surfaces - Plaster/plasterboard with surface suitable for direct decoration.
* Preparation - To BS 6150:2006+A1:2014.
* Initial coat - One thinned coat applied prior to commencement of second fix works.
* Finishing coat - Two full coats.
* Colour – Magnolia, or as specified by Employer/Client, to BS 3900-B15:1987

*EXPOSED PIPEWORK GENERALLY:*

* Paint – Satinwood, or as specified by Employer/Client
* Manufacturer – Dulux, or as specified by Employer/Client
* Surfaces - Copper pipework
* Initial coat - one coat zinc phosphate primer
* Finishing coat - Two full coats
* Colour – White, or as specified by Employer/Client

**WALL TILING**

**TILING TO WALLS AND WINDOW SILLS:**

*KITCHENS:*

* 450 mm high splash backs above all kitchen units or to underside of wall cupboards; and from floor to 450 mm above adjacent work surfaces in cooker position, or as specified by Employer/Client

*ABOVE ALL WASH HAND BASINS:*

* Generally:
* Sills and reveals to windows occurring in areas of tiling.
* 450 mm above wash hand basins.

*CERAMIC WALL TILES:*

* Tiles - To BS EN 14411:2016, group B Size: 150 x 150mm nominal, or as specified by Employer/Client
* Colour – White, or as specified by Employer/Client, with matching edge trims to all exposed edges.
* Background/Base - Plaster/Plasterboard/Plywood.
* Preparation - Use primers/sealers recommended by adhesive manufacturer
* Bedding - Thin bed adhesive: Apply floated coat of adhesive to dry background in areas of approximately 1 sq m and comb the surface with the recommended solid bed trowel. Apply thin even coat of adhesive to backs of dry tiles. Press tiles onto bedding with twisting/sliding action to give finished bed thickness of not more than 3 mm.
* Adhesive - Water resistant organic based from Building Adhesives Ltd or similar product.
* Grouting material - Water resistant as recommended by adhesive manufacturer
* Grout tiles as soon as possible after the bedding has set sufficiently to prevent disturbance of tiles.
* Ensure that joints are 6 mm deep (or the depth of the tile if less), and are free from dust and debris. Fill joints completely, tool to an approved profile, clean off surface and leave free from blemishes.
* Polish wall tiling with a dry cloth when joints are hard.
* Joint width - 2 mm
* Accessories - Plastics tile edge trim where the edges are exposed.
* Point junction between tiles and sanitary/kitchen fittings with silicone based sealant to BS EN ISO 11600:2003+A1:2011, Type B with fungicide.

*MIXING GENERALLY:*

* Check that there are no unintended colour/shade variations within the tiles for use in each area/room. Thoroughly mix variegated tiles.
* Check that adhesive is compatible with background/base. Use a primer where recommended by adhesive manufacturer.
* Cut tiles neatly and accurately.
* Unless specified otherwise fix tiles so that there is adhesion over the whole of the background/base and tile backs.
* Before bedding material sets make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
* Clean surplus bedding material from joints and face of tiles without disturbing tiles.

*SETTING OUT:*

* Joints to be true to line, continuous and without steps.
* Joints on walls to be truly horizontal, vertical and in alignment round corners.
* Joints in floors to be parallel to the main axis of the space or specified features.

*FLATNESS/REGULARITY OF TILING:*

* Sudden irregularities not permitted.
* When checked with a 2 m straight edge with 3 mm thick feet at each end, placed anywhere on the surface, the straightedge should not be obstructed by the tiles; no gap should be greater than 6 mm.

*THIN BED ADHESIVE - SOLID (WALLS):*

* Apply floated coat of adhesive to dry background in areas of approximately 1 sq m and comb the surface with the recommended solid bed trowel.
* Apply thin even coat of adhesive to backs of dry tiles.
* Press tiles onto bedding with twisting/sliding action to give finished bed thickness of not more than 3 mm.

*GROUTING:*

* Grout tiles as soon as possible after the bedding has set sufficiently to prevent disturbance of tiles.
* Ensure that joints are 6 mm deep (or the depth of the tile if less), and are free from dust and debris.
* Fill joints completely, tool to an approved profile, clean off surface and leave free from blemishes.
* Polish wall tiling with a dry cloth when joints are hard.

**FITTINGS AND FURNISHINGS**

*FITTED KITCHEN UNITS:*

* Colours - The colours of units and worktops are to be to the Employer/Client’s approval.
* Drawings - kitchen layout drawings to be provided for approval.
* The end panel should not be fixed until the anti-slip flooring has been laid.
* Contractor to allow 620mm wide space (including electrics) for freestanding cooker.
* Contractor must also install a heat insulation panel where ever cooker space is directly next to fridge or fridge/ freezer space.
* Types of unit - Base units to be 900mm high x 600mm deep (nominal) and to have one internal shelf and full height doors. Drawer units to have three or four drawers. Wall units to be 600mm/900mm x 300mm deep (nominal) and to have one or two internal shelves.
* Metal fittings - All steel fittings must be zinc/nickel plated or epoxy resin coated.
* Strength requirements - To BS 6222-2:2009+ A1:2017, level H.
* Worktops - Post formed rounded edge chipboard to BS EN 312:2010, grade P5, faced and edged with high pressure laminate, fully lipped and sealed on unseen surfaces, or as specified by Employer/Client.
* Thickness - 40mm grade P3 board
* Forming L-shapes - Use Mason's mitre.
* Worktop supports - Do not obstruct spaces reserved for appliances. Provide intermediate support to worktops over double appliance spaces.
* Carcase - Metal box drawers, 15 mm minimum melamine faced chipboard to BS 6222-2:2009+A1:2017 Level H, grade P3/P5, or as specified by Employer/Client. All exposed edges lipped with 0.30 mm minimum PVC bonded with hot melt adhesive. Rails and muntins in timber, or vinyl wrapped MDF.
* Backs - Provide backs in all base units. Back of cabinets to be white hardboard inset by 66mm to allow space for service runs.
* Door and drawer fronts - Must be replaceable/ interchangeable. All cupboard doors to be fully lipped with PVC lippings minimum 3mm thick to match the colours of the fittings.
* Handles - "D" type with back fixing and metal inserts to be approved by the Employer, or as specified by Employer/Client
* Drawer runners - With integral safety stops.
* Hinges - Metal hinges to doors to be 170 degree opening, fully concealed with three way adjustment and integral catches. Hinges to comply with BS 6222-2:2009+A1:2017 Level H.
* Sink - Austenitic 18/8 stainless steel, or as specified by Employer/Client, to BS EN 13310:2015, (inset) with overflow. Thickness of material before forming to be a minimum of 0.83mm. Minimum depth of bowl to be 180mm from top edge of bowl to the deepest part including double recess for waste outlet.
* Taps - ½inch chrome plated 75mm lever type mixer tap with dual flow swivel, or as specified by Employer/Client, to BS EN 200:2008. Refer to water consumption calculations for tap flow rate to comply with Section WAT1 of the Code for Sustainable Homes. Flow restrictors or aerators to be installed as required to reduce flow rate of taps to reduce the water consumption.
* Wastes - Chrome plated brass waste to relevant BS EN 274:2002 with plug and chrome plated chain and stay, or as specified by Employer/Client
* Trap - 40mm diameter, 75mm deep seal trap to relevant BS EN 274:2002.
* Sealing - Joint between sink and worktop, Silicone based to BS EN ISO 11600:2003+A1:2011 with fungicide.
* Colour - To Employer/Client approval.
* Joint between worktop and wall - Silicone based to BS EN ISO 11600:2003+A1:2011 with fungicide.
* Colour - To Employer/Client approval, or approved proprietary sealing strip.
* Joint between base unit and floor - Silicone based to BS EN ISO 11600:2003+A1:2011 with fungicide.
* Colour - To Employer/Client approval.
* Joint between jointing strip and worktop - Silicone based to BS EN ISO 11600:2003+A1:2011 with fungicide.
* Colour - To Employer/Client approval.

*INSTALLATION MOISTURE CONTENT:*

* During delivery, storage, fixing and thereafter to practical completion maintain conditions of temperature and humidity to suit specified moisture content(s) of timber components.
* When instructed by the Employer, test components with an approved moisture meter to manufacturer's recommendations.

*WALL MOUNTED UNITS:*

* Fix with underside of unit 450 mm above worktop.

*INSTALLATION GENERALLY:*

* Comply with BS 6222-2:2009+A1:2017.

*CUT EDGES:*

* Where site cutting of chipboard materials cannot be avoided, seal cut edges immediately with 2 coats oil-based gloss paint or other sealer recommended by manufacturer.

*TAPS:*

* Fix securely, making a watertight seal with the appliance.

*WASTES/OVERFLOWS:*

* Bed in waterproof jointing compound and fix with resilient washer between appliance and backnut.

*SEALANT POINTING:*

* Sealant - Silicone based to BS EN ISO 11600:2003+A1:2011, Type B with fungicide.
* Colour - To CA approval.

*TRIMS:*

Wherever possible to be in unjointed lengths between angles or ends of runs. Mitre angle joints unless otherwise specified.

*PURPOSE MADE JOINERY -FABRICATION GENERALLY:*

* Fabricate joinery components to BS 1186-2:1988.
* Form sections out of the solid when not specified otherwise. Carefully machine timber to accurate lengths and profiles.

After machining, sections to be free from twist and bowing and surfaces to be smooth and free from tearing, wooliness, chip bruising and other machining defects.

* Assemble with tight, close fitting joints to produce rigid components free from distortion.
* All screws to have pilot holes. Screws of 8 gauge or more and all screws into hardwood to have clearance holes. Screw heads to be countersunk not less than 2 mm below timber surfaces that will be visible in completed work.

*PRESERVATIVE TREATED TIMBER:*

* Carry out as much cutting and machining as possible before treatment.
* Retreat all timber which is sawn along the length, ploughed, thicknessed, planed or otherwise extensively processed.
* Treat surfaces exposed by minor cutting and drilling with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

*MOISTURE CONTENT:*

* Moisture content of timber and wood based boards to be maintained within the range specified for the component during manufacturer and storage.

*FINISHING AND PROTECTING:*

* Sand all joinery to give smooth, flat surfaces suitable to receive specified finishes.
* Arrises to be eased unless specified otherwise.
* Before assembly, seal all end grains for external components with primer or sealer and allow drying.
* Protect completed joinery against damage, dirt, moisture and other deleterious substances.

*PRESERVATIVE TREATMENT –GENERALLY:*

* Application to be carried out after cutting and machining, but before assembly, by a processor licensed by the treatment solution manufacturer for the specified treatment.
* For each batch of timber, provide a certificate of assurance that treatment has been carried out as specified.

**ELECTRICAL INSTALLATION**

* Generally:
* The whole of the electrical installation is to be installed by an approved and registered firm. The detailed design of the installation is the responsibility of the Contractor and notwithstanding anything included in the Specification must comply with the requirements of the latest Edition of the IET Wiring Regulations issued by the Institution of Engineering and Technology (previously known as IEE) (hereinafter referred to as the "IET Regulations") and comply with Parts E and P of the Building Regulations.
* The Contractor shall carry out a complete series of tests as laid down in the IET Regulations and issue the prescribed testing certificates to the Employer prior to practical completion. Wiring is to be concealed and all accessories flush mounted. The layout of the installation shall be as neat and unobtrusive as possible and all accessories shall be uniformly and correctly aligned. All cables within the floor zone shall be laid out neatly and be fully supported. All cables within the roof space shall be laid out neatly and clipped to roof timbers in accordance with the Regulations.
* The meters shall be installed under the building contract in the name of the Contractor so that the heating and electrical systems may be tested and shall be read at Practical Completion and left in place for the Employer
* Meters shallbe installed so as to be readable from the outside and shall be fitted in an approved box supplied by the Electricity Supplier and built into the external skin of the cavity wall.
* The hall shall be served by a consumer unit easily accessible to the maintenance manager and fitted with miniature circuit breakers and a Residual Current Circuit Breaker giving overall protection to socket outlets and any external services. Consumer units should be located generally 1.2m above finished floor level and be provided with a lockable cover.
* All buried wiring shall be capped for protection and are to be vertical.
* Approved makes of electrical fittings are:
* Crabtree
* MK Electrical
* Tenby
* Fittings from only one of these manufacturers are to be selected and used throughout the Contract.
* Electrical points (in addition to spurs for heating appliances) shall not be less than the provision shown below, and as specified by Employer/Client, and shall be in locations shown on the electrical layout to be agreed with the Employer/Client:

*Kitchen:*

* 4 Twin 13amp switched socket outlets above the worktop.
* 2 Single 13amp un-switched sockets with neon indicator isolating switches above worktop (fridge/freezer). Alternatively the use of a grid switch may be appropriate,
* 1 Cooker point suitable for hard wiring with switch and separate 13amp unswitched socket for gas ignition.
* 1 13amp fused spur for a cooker hood located above the cooker position.
* 1 Single 13amp un-switched sockets within the cooker space wired from the cooker circuit for gas ignition or for a 13A appliance
* 1 Light point 1 or 2-way switched
* 1 Light point with 1500 mm fluorescent fitting and diffuser 1 way switched.
* 1 Extract fan with fused spur (fan not provided over cooker space)
* The Employer/Client requires the fused spurs on grid switches and these are to be labelled.
* All outlets above the kitchen worktops to be at the same height.

*Small Hall/meeting room*

* 4 Twin 13amp switched socket outlet
* 1 Light point 1-way switched
* 1 Heat detector/smoke detector
* 1 Telephone point (cabled to the main incoming point)

*Bar Store:*

* 3 Twin 13amp switched socket outlet above worktop
* 1 smoke detector
* *WCs:*
* 1 Light point with enclosed fitting (switch to be located on the outside of the room or to be a ceiling mounted pull cord located within the room, to the approval of the Employer.)
* 1 Extract fan with isolated fused spur (suitably located a minimum of 300mm away from the light fitting)

*Bar :*

* 4Twin 13amp switched socket outlet
* 1 Light point 1-way switched
* 1 smoke detector

*Stage area:*

* 3 Twin 13amp switched socket outlet
* 1 Light point 1-way switched
* 1 smoke detector

*Stores:*

* 2 Twin 13amp switched socket outlet
* 1 Light point with enclosed fitting (switch to be located on the outside of the room or to be a ceiling mounted pull cord located within the room to the approval of the Employer.)

*Entrance area:*

* 3 Twin 13 amp switched socket outlet
* 1 Light point 2-way switched
* 1 smoke detector

*Front Door:*

* 1 Outside light fitting, with photocell operation and manual over-ride. Sample/details of fitting to be provided to the Employer for approval.
* 1 Door bell (mains operated)

*Rear External Door:*

* 1 Outside light fitting, with photocell operation and manual over-ride. Sample/details of fitting to be provided to the Employer for approval.

*Internal Stores/Loft or Attic Space:*

* 1 Light point 1-way switched with neon indicator.
* Generally:
* Standard bayonet light fittings are to be provided with low energy lamps to suit CSH requirements. Dedicated CFL fittings to pendants and batten holders are not permissible.
* Electrical points and switches shall be positioned to take account of likely furniture layouts and to avoid inoperable locations. All socket outlets shall be positioned 450mm above finished floor level except above worktops. Light switches shall be positioned generally 1050 mm above finished floor level.
* All socket outlets shall be switched and shall be wired from a 13A ring main system.
* Locations of socket outlets are to suit the designed furniture layouts. Where a refrigerator is intended to be situated below worktops, an unswitched socket outlet shall be located in the space below the worktop and wired to a switched spur unit above the worktop and to one side of the space so that the appliance may be switched off without unplugging.
* Cooker switch shall be located to one side of cooker spaces with a separate cable outlet pre-wired to the control switch. Cooker control switches shall not have kettle sockets. Adequate sockets to include the use of an electric kettle shall be provided on the RCCB protected circuit.
* Large rooms with two or more ceiling lights must be separately switched via a two gang switch.
* Lighting is to be adequate for safety and security.

*CABLES AND FITTINGS FULLY INSULATED PARTITIONS AND CEILINGS:*

* The design and installation shall take due account of good practice when installing cables and/or fittings in fully insulated partitions and ceilings and have regard to BRE BR262, Thermal Insulation: avoiding risks, section 2.3.

*CABLE RUNS WITHIN THE INSULATION VOID:*

* For service runs within the insulated void use suitable ductwork to prevent overheating of the cables.

*FIRE PRECAUTIONS:*

* All rising services are to include fire collars to all ceiling junctions.

*FIRE ALARMS, SMOKE & CARBON MONOXIDE DETECTORS:*

* The fire detection and alarm system is to be fitted and certified in accordance with BS 5839:2013 to satisfy requirement B1 of Schedule 1 of the Building Regulations 2010. A commissioning certificate is to be provided at completion of the installation.
* Heat detectors are to be used in kitchen. They shall be equipped with test button or, where situated out of reach, of the type tested by torchlight beam.
* Mains powered carbon monoxide detectors with battery backup to be provided in locations to be agreed with Leybourne Parish Council and in accordance with the manufacturer’s recommendations.
* Requirement B1: Lighting and emergency lighting should be provided in accordance with BS 5266-1:2011 to satisfy the requirement of B1 of Schedule 1 of the Building Regulations 2010. A commissioning certificate is to be provided at completion of the installation.

*BUILDER’S WORK:*

* All cables shall be installed with felt between them and at cross over points including crossover points with pipes to ensure that there is no transfer of heat or cable rubbing or noise generation.

*TESTING:*

* All installations shall be tested in accordance with the Regulations and test certificates submitted to the Employer prior to Practical Completion or Partial Possession.

*DRAWINGS AND CONSTRUCTION INFORMATION:*

* A plan layout of the electrical installation showing the positions of the electrical equipment, meters, consumer unit, switching, outlets etc shall be provided by the contractor to the Parish Council.
* Manufacturer's installation, operating and maintenance manuals will be provided to the Parish Council together with on-site training if required at Practical Completion.
* Regulation 38: Fire safety information relating to the design and construction of the building or extension, and the services, fittings and equipment which will assist the responsible person operate and maintain the building or extension with reasonable safety, is to be provided. Evidence that the fire safety information has been provided for a building covered by the Regulatory Reform (Fire Safety) Order 2005 is to be forwarded to the Local Authority.

*CO-ORDINATION:*

* The Contractor will be responsible for co-ordinating the electrical installation related to other elements and finishing.

*SIGNAGE:*

* Fire signage should be fitted in accordance with BS 5499 and BS ISO 7010 to satisfy requirement B1 of Schedule 1 of the Building Regulations 2010.

**PLUMBING AND HEATING INSTALLATIONS**

 *RAINWATER PIPEWORK AND GUTTERS:*

* Rainwater goods shall be PVCu downpipes and guttering style and size to match existing.
* Provide rainwater calculations and install correct number of downpipes accordingly.
* Balloon gratings may be required to be fitted at the head of all downpipes.
* In gutters likely to be affected by falling leaves from trees, designs should incorporate oversize gutters and additional downpipes.

*SANITARY FITTINGS:*

* Kitchen sinks shall be stainless steel with single bowl and drainer, chrome plated brass waste, overflow and plugs and chains and Bristan Quest chrome plate monobloc mixer tap or similar to Employer/Client approval.
* Unless otherwise specified herein, all sanitary fittings are to be from Armitage Shanks Sandringham range or similar to Employer/Client approval.
* Lavatory basins to bathrooms shall be vitreous china with integral overflow, minimum size of 560 x 430 mm, and fitted with pair of Bristan Quest pillar taps or similar to Employer/Client approval, chrome plated brass wastes and plugs and chains.
* In addition to wall brackets, bathroom basins shall be supported by matching pedestals where available with neat mastic seal between basin and pedestal.
* Lavatory basins to WC’s may be of a smaller size but from the same range as in the bathroom.
* WC suites shall be close coupled low volume dual flush vitreous china suite. Min 4/6 litre dual flush cisterns shall be provided where required or recommended by the local water authority and carry clear instruction labels.
* WC pans shall be screw fixed with flexible multikwik type drain connectors to permit removal for repair. Cement bedding on solid floors shall not be used.
* WC’s shall be fitted with heavy duty solid plastic seat and cover with metal hinges/fittings. A sample is required to be submitted and approved.
* All sanitary ware shall be white or as specified by Employer/Client
* A good quality “L shape” chrome plate toilet roll holder to match the sanitary fittings, or as specified by Employer/Client shall be provided at an appropriate location adjacent to each WC.
* A good quality chromium plated towel rail, or as specified by Employer/Client, located over a heat source shall be provided to all bathrooms and WC’s, with secure fixings.
* Taps shall achieve maximum permissible flow rate to achieve CSH credits.

*WASTE PIPEWORK:*

* Above ground pipework:
* All new internal drainage and plumbing to comply with BS 552. Pipework to be in uPVC, with pipework sized as follows:

SVP'S: 100mm dia.

Wastes: 100mm dia

Baths and Showers: 40mm dia.

Sink Waste: 40mm dia.

Wash hand basin 40mm dia.

* Trapped waste connections shall be provided to all sanitary appliances and washing/drying machine points. All traps to be deep seal 75 mm traps and be antisyphon, if required.
* Soil and waste pipework shall have adequate rodding access for clearing blockages. All traps shall have sections removable without the need to use tools.
* Soil and vent pipes shall be concealed in adequately insulated ducts and should not be located in living or dining rooms.
* Pipework shall not pass across appliance spaces.
* Waste pipework to be a minimum of 150mm off of the floor.

*INCOMING WATER MAIN*:

* The incoming water main shall be positioned so as to not obstruct the space within the sink base unit as to render it unusable. If this occurs additional kitchen units will be required to be provided at the Contractor’s expense to achieve the required storage capacity.
* Main to be one piece alkathene pipework with underground fittings to be gun metal to BS EN 1254-3:1998 and to be insulated if required by the Water Authority.
* Compression fittings to be Class C Copper, installed correctly.
* A surestop water isolating valve with switch located above the worktop in the kitchen is to be provided.

**GAS AND WATER SERVICES**

* Generally:
* All gas installations shall be in accordance with Gas Safe requirements. Gas and water meters shall be installed under the building contract in the name of the Contractor so that the plumbing and heating installations can be tested and commissioned. Meters will be read at Practical Completion and left in place for the Employer.
* Meters shall be installed so as to be reachable from the front externally and shall be fitted in an approved box supplied by the Gas/Water Supplier and built into the external skin of the cavity wall or installed at ground level in a semi-concealed type box.

*HEATING:*

* The Contractor shall allow for providing and installing a central heating system capable of maintaining minimum inside temperatures and air changes to comply with Part L of the Building Regulations, when the outside temperature is -3°c, or adaption of existing.
* The Contractor shall price for heating to be by indirect hot water panel radiators served by a Valiant, Worcester Bosch or similar equal and approved high efficiency condensing gas fired boiler which is to be provided with a minimum 5-year manufacturer’s warranty. Hot water is to be provided by a Megaflow or similar equal and approved pressurised system indirect cylinder with mains fed cold water (no storage in the roof space).
* The cylinders are to be to British Standard with a 5 year guarantee, fitted with a stainless steel insert and be fitted with an immersion heater with thermostat to BS EN 60335-2-73:2003+A2:2009 as a back up. Pressure vessels shall be sited internally within the cylinder. Space for the slatted shelving is accommodated in accordance with these requirements. The installation shall be approved by British Gas.
* Gas boilers shall be of balanced flue type, with or without fan assistance and be of the high water capacity type. Boilers shall be wall hung and sited in kitchens and must be easily accessible for servicing and maintenance.
* Gas heating systems shall be programmable as to operating times and hot water temperature. A Drayton LP522 5 day/2day digital type programmer or equal approved should be used allowing the hot water and heating circuits to be programmed individually.
* Room temperatures shall be individually controllable by thermostatic radiator valves. A room thermostat shall also be located in the coldest part of the property, if recommended by the designer.
* Grundfoss central heating pumps or similar shall be used.
* Corrosion inhibitors such as Fernox or similar must be provided to all wet systems on installation.
* Automatic air ejection devices shall be provided.
* Heating pipework can be copper of not less than 15mm diameter or a plastic pipework system. Pipework should be run within floor zones wherever possible with surface fixed pipework to be avoided wherever possible.
* Extensive ducting of pipes in floor screeds shall be avoided and pipework buried in concrete or floor screeds will not be acceptable.
* There shall be no joints in concealed pipework. Long runs of surface pipework shall be avoided.
* Where plastic heating plumbing systems are used:-
* they shall be of materials that are of the correct specification/chemical composition for the purpose (e.g. hot water);
* all elements shall be selected from the Hepworth ‘Hep2O’ system range (15mm min), complete with 50 year guarantee;
* they shall be laid in continuous lengths with no concealed joints or flexible hose connectors;
* runs shall be installed vertically or horizontally, at right angles to main walls, ceilings and floors, with a metal tape or similar running alongside to assist occupiers and maintenance staff in locating the line;
* they shall be fully supported along their lengths wherever possible (inc. through floors and in lofts where particularly vulnerable);
* replaced with copper wherever exposed and vulnerable to potential damage (e.g. radiator tails, under kitchen sinks, in airing cupboards, etc
* Generally:
* Pipework, pumps and other controls shall be neatly installed and unobtrusive particularly in the airing cupboard location. Design and installation should take into account the future renewal of the cylinder and installation of shelving as well as maintenance access to those pumps and controls.
* Where possible radiators or heater units should be sited under windows to overcome cold down draughts and generally sited so as not to cause obstructions.
* A gas heated dwelling to incorporate gas point for cooker.
* Pipework passing through kitchen cupboards, particularly where food could be stored, shall be insulated. Primary pipework shall also be insulated.
* Central heating installations are to be installed by a Gas Safe registered Contractor.
* Commissioning shall follow the following procedure:-
* *After initial venting, the system is to be run at a high temperature and flushed while hot*
* *System is to be refilled, vented and water treatment/inhibitor should be added to the manufacturers specification*
* *The system to be run at full temperature for 48 hours immediately prior to the snagging inspection.*
* Gas fired heating installations must be designed with the boiler located directly on the external wall and under no circumstances will long or enclosed flue runs be permitted.

*HOT AND COLD WATER SYSTEMS:*

* Hot water cylinders shall be so sited as to permit future replacement without major disruption. Traditional insulated copper cylinders shall be used.
* Ball-o-fix valves shall be installed on hot and cold pipework to all fittings to facilitate future maintenance.
* Pipework shall not pass across appliance spaces.
* External taps are not to be fitted.

*VENTILATION:*

* Mechanical ventilation shall be provided to all WCs and kitchens to give the air changes required to comply with the Building Regulations.
* WC fans are to be wired with the light switch and have a timed overrun, all other fans are to be humidistat controlled – or as specified by Employer/Client
* Fans are to be manufactured by Envirovent and be filterless type or similar to Employer/Client approval. Full details of the proposals are to be provided to the Employer/Client for approval.
* All fans shall be of the humidistat type via non-switched fused spurs with motor and fan completely removable. Extract ducts passing through roof voids or other cold areas shall be lagged and include a condensation trap.
* Contractors M&E supplier to provide calculations / information for submission to building control for approval. The person carrying out the work shall not later than five days after completion give sufficient information to the owner about the buildings ventilation system and its maintenance requirements so that the ventilation system can be operated in such a manner as to provide adequate means of ventilation.
* If required by HRS Services (energy consultant), an air pressure test is to be carried out 27. Regulation 43 / requirement L2A: Pressure testing should be carried out to an approved and agreed procedure and results provided sufficient to show that requirement L1 and Regulation 43 of the Building regulations 2010 has been satisfied. Results are to be deposited with the Council not later than 5 days after completion.

*BUILDER’S WORK:*

* All service installations are to be concealed, except where they need to remain accessible for routine maintenance. Surface fixed cable conduit, ducting or pipework is not acceptable.
* In addition to the normal builder’s work required for the Plumbing and Engineering Installations, the Contractor shall allow for neatly boxing in exposed pipework in bathrooms and WC’s.
* All pipework that is suspended independently shall have supports.
* All pipework shall be installed with felt between pipes and at cross over points including crossover points with cables to ensure that there is no transfer of heat or pipe rubbing or noise generation.

*PAINTING OF PIPEWORK*:

* All exposed pipework shall be painted. Please refer to the decorations sections of the Specification.

*GENERAL WORKMANSHIP:*

* Where pipework penetrates through walls and ceilings the decoration of the walls and ceilings are to be flush and decorated to the same standard as the other decorations within the property. Please refer to the decorations section of the Specification

*TESTING:*

* All installations shall be tested in the presence of and to the satisfaction of the Employer/Client.

*CO-ORDINATION:*

* The Contractor will be responsible for co-ordinating the plumbing and engineering installation related to other elements and finishings in the dwellings.

*OPERATING INSTRUCTIONS AND INDUCTION DEMONSTRATIONS:*

* Operating instructions are to be provided at handover
* The Contractor or Sub-Contractor shall also allow for giving a demonstration of the operation of the heating installation and plumbing components if required.

**EXTERNAL WORKS**

*EXISTING GARAGE TYPE BUILDING TO REAR*

* *Contractor is to allow for the demolition and removal of 2no existing garage/outbuildings to allow for the new extension.*
* *Demolition method to be as safe as possible*
* *All materials to be disposed of at a licenced facility*

*PATHS WITHIN CURTILAGE OF VILLAGE HALL:*

* Provide paths where indicated on drawings or as specified by Employer:
* Generally - Suitable for wheelchair accessibility.
* All paths must be set back 150mm from external walls, with the intervening gap in filled with decorative slate pieces (See detail required for “Free Draining Margin to Perimeter of Dwellings‟ described later.

**SEEDING TO GRASSED AREAS:**

*GRASS SEED FOR ALL SEEDED AREAS:*

* Rate of application: 35g/m²

*QUALITY OF SEED:*

* Purchase fresh seed for each growing season. Do not use seed purchased for previous seasons.
* Use blue label certified seed varieties complying with EC regulations for purity and germination.
* When requested, supply to the Employer samples of mixtures as delivered to site or copy of original certificate of germination, purity and composition carried out by an Official Seed Testing Station.

*SOWING:*

* Sow seed in calm weather during April to October.
* Spread seed evenly at the specified rate applied in two equal sowings in transverse directions.
* Lightly harrow or rake.
* On light soils roll and cross roll after seeding using a lightweight roller.

*PRE-EMERGENT HERBICIDE:*

* Where soil has not been allowed to lie fallow apply a suitable pre- emergent herbicide immediately after sowing.

TURF EDGING TO SEEDED AREAS

* Before sowing, rake back a 750 mm wide margin around prepared seed beds where shown on drawings.
* Lay a single row of turves to BS 3969:1998+A1:2013, with no perennial ryegrass and of a similar seed composition to the seeded area, end to end and trim to a line.
* Marry in level of seed bed with the turf and water turf on completion.

*SOIL CONDITIONS:*

* Cultivate and plant into moist friable soil that is not waterlogged.
* Do not plant into frozen or snow covered soil

*CLIMATIC CONDITIONS:*

* Carry out the work while soil and weather conditions are suitable for the relevant operations. Do not plant during periods of frost or strong winds.
* Ensure that adequate watering and weed control is provided.

*WATERING GENERALLY:*

* Ensure the full depth of topsoil is thoroughly wetted.
* Use a fine rose where appropriate to avoid damaging or loosening plants.

*WATERING:*

* Water as necessary to ensure the establishment and continued thriving of all planting.

*PREPARATION, PLANTING AND MULCHING MATERIALS GENERALLY:*

* Do not use materials containing concentrations of toxins, pathogens or other extraneous substances harmful to plant, animal or human life.

**DRAINAGE**

* Attenuation methods to be installed as required to ensure that the peak discharge rate from the site is reduced to either:
* The pre-development sites estimated mean annual flood (Qbar) or,
* 2/ls/ha or,
* A minimum flow rate (litres per second) based on good practice guidelines
* to prevent easy blockage by ensuring the outlet throttle is not too small.
* If rainwater is discharged to a public sewer or adopted surface water sewer, the flow rate requirements will be defined by the Sewerage Undertaker.

*EXISTING DRAINS:*

* Before starting work, check invert levels and positions and condition of existing drains, sewers, inspection chambers and manholes.
* Adequately protect existing drains and maintain normal operation during construction.

*PERFORMANCE CRITERIA:*

* Design, construct and test drainage below ground to BS EN 752:2008

**TYPE OF PIPELINE**:

*PLASTICS PIPELINES:*

* Pipes, bends and junctions: PVCu to BS EN 13598-1:2010, with flexible joints, Kitemark certified.

*PIPES PASSING THROUGH WALLS:*

* Pipes penetrating structural walls to have relieving arch or concrete lintel over with 50mm clearance around pipe, sealed using fibreboard inserts pre-cut to pipe diameter and mastic seal to wall face and pipe.
* First joint in drainage to be within 150mm of each side of wall face followed by a short length of “rocker” pipe no longer than 600mm.

**EXCAVATING/BACKFILLING:**

*LOWER PART OF TRENCH:*

* From bottom up to 300 mm above crown of pipe the trench must have vertical sides and be of a width as small as practicable but not less than external diameter of pipe plus 300 mm or larger dimension if specified.

*FORMATION FOR BEDS GENERALLY:*

* Excavate to formation immediately before laying beds or pipes.
* Remove mud, rock projections, boulders and hard spots and replace with consolidated bedding material.
* Harden local soft spots by tamping in bedding material.

*COMBINED TRENCHES:*

* Where one pipe is at a lower level than another adjacent pipe in a common trench:
* A sub trench is permissible provided the soil of the step is stable and unlikely to break away.
* If a sub trench is not permissible, the whole trench must have a depth related to the lower pipe, with increased thickness of bedding to the upper pipe as necessary.
* The lower pipe must be backfilled with compacted granular material to not less than half way up the higher pipe.

*BACKFILLING TO PIPELINES GENERALLY:*

* Unless specified otherwise, backfill from top of surround or protective cushion with material excavated from the trench, compacted in layers not exceeding 300 mm thick. Do not use heavy compactors before there is 600 mm of material over pipes.

**BEDDING/JOINTING- INSTALLATION:**

* Generally:
* Obtain pipes and fittings for each pipeline from the same manufacturer unless otherwise specified. Joint differing pipes and fittings with adaptors recommended by pipe manufacturer.
* Lay pipes to true line and regular gradient on an even bed for the full length of the barrel with sockets (if any) facing up the gradient.
* Joint using recommended lubricants, leaving recommended gaps at ends of spigots to allow for movement.
* Adequately protect pipelines from damage and ingress of debris. Seal all exposed ends during construction.
* Arrange the work to minimise time between laying and testing. Backfill after successful testing.
* Comply with manufacturer's recommendations/ instructions.

*TERMINAL/ACCESS FITTINGS- MANUFACTURE:*

* Obtain each complete assembly of fittings, traps, etc., including appropriate couplings, from the same manufacturer, and check compatibility of components with each other and with the pipe system.

INSTALLATION OF FITTINGS:

* Set fittings square with and tightly jointed to adjacent construction as appropriate. If open to doubt obtain instructions.
* Bed and surround fittings, traps, etc. in concrete, 150 mm thick.
* Permissible deviation in level of gully gratings to be +0 to- 10 mm,
* Fit purpose made temporary caps over exposed openings in fittings and protect from site traffic.

**MANHOLES/CHAMBERS/SOAKAWAYS/TANKS:**

*MANHOLES/INSPECTION CHAMBERS:*

* Position so that access covers occur completely in paving of one type or completely in topsoiled areas.

*ENGINEERING BRICKWORK IN MANHOLES:*

* Clay Bricks - To BS EN 771-1:2011+A1:2015, BS EN 772-3:1998 and BS EN 772-7:1998, Engineering Class B OR concrete bricks to BS EN 771-1:2011+A1:2015, BS EN 772-3:1998, minimum average compressive strength 21 N/sq mm.
* Mix - Group 1
* Bond - English
* Joints - Flush.

*CAST IRON ACCESS COVERS AND SEATING:*

* Covers - Grey iron or ductile iron to BS EN 124:2015.
* Seating - Make up in engineering bricks to BS EN 771-1:2011+A1:2015, BS EN 772-3:1998 and BS EN 772-7:1998 Class B, laid in 1:3 cement:sand mortar, or precast concrete cover frame units, Type 1 or Type 2 to suit cover shape.
* Bed and haunch frame solidly in 1:3 cement:sand mortar over its whole area, centrally over opening, top level and square with joints in surrounding finishes. Cut back top of haunching to 30 mm below top of surface material.

*STEEL ACCESS COVERS AND SEATING:*

* Covers - Steel to BS EN 124:2015, classes as appropriate.
* Finish - Hot dipped galvanised.
* Types - Recessed covers for concrete and pavior block infill
* Seating - Make up in engineering bricks to BS EN 771-1:2011+A1:2015, BS EN 772-3:1998 and BS EN 772-7:1998 Class B, laid in 1:3 cement:sand mortar or precast concrete cover frame units, Type 1 or Type 2 to suit cover shape.
* Bed and haunch frame solidly in 1:3 cement:sand mortar over its whole base area, centrally over opening, top level and square with joints in surrounding finishes. Cut back top of haunching to 30 mm below top of surface material.

*SURFACE WATER SOAKAWAYS:*

* Surface water from new roof to discharge to a new soakaway with a minimum capacity of \*\*2.6m³. Soakaway to be positioned 5m min from any building. Soakaway is to be constructed of honeycomb brickwork, perforated concrete rings or proprietary crate system and is to be left as an empty chamber. \*\*2.6m³ assumes a brick honeycomb construction with approx 30% void ratio.
* Contractor to perform soakage test to ascertain feasibility of soakaway.

*CONNECTIONS TO SEWERS:*

* Where a soakaway is not feasible, connect new pipework to existing adopted sewer(s) to the requirements of the Sewerage Authority or its agent.

**CLEANING/TESTING/INSPECTION:**

*CLEANING:*

* Flush out the whole of the installation with water to remove all silt and debris before final testing, and immediately before handover.
* Safely dispose of washings and any detritus without discharging them into sewers or watercourses.

*TESTING/INSPECTION GENERALLY:*

* Give CA advance notice to allow the opportunity to attend all tests and inspections.
* Give the Statutory Authority appropriate notice to enable pipelines to be inspected and tested as required.
* Provide water, assistance and apparatus as required.
* All lengths of drain, manholes and inspection chambers must pass the tests specified. If permitted test loss or infiltration is exceeded, remedy defect(s) before retesting after an appropriate period.

*WATER/AIR TESTING OF GRAVITY DRAINS AND PRIVATE SEWERS UP TO DN 300:*

* To ensure that pipelines are sound and properly installed, air test short lengths to BS EN 752:2008 immediately after completion of bedding/surround.
* For final checking and statutory authority approval, water test to BS EN 752:2008; all lengths of pipeline from terminals and connections to manholes/chambers and between manholes/chambers.

*WATER TESTING OF MANHOLES/INSPECTION CHAMBERS:*

* Before backfilling test each manhole or chamber in accordance with BS EN 752:2008 for:
* Exfiltration: Drop in water level to be not more than relevant dimension in Table 9.
* Infiltration: Inflow to be not more than 5 litres per hour per manhole.

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Contingency Sum £20,000.00

**Tender Sum £**

**Tender Sum in Words:**

**Company Name:**

**Signature**

**Position**