ROOF CONSTRUCTION

Main Roofs

Coverings
Roof covering to be natural slate, fixed strictly in accordance with manufacturers details and specifications and in accordance with BS 5534 Parts 1 and 2 to 35 x 25mm tanalised battens at required centres, fixed with galvanised nails. Dupont Tyvek or Kingspan Nilvent breathable roof membrane laid trapped and fixed in accordance with manufacturers instructions.

100 x 50mm main wall plate anchored at 2m centres max. at rafter and ceiling chord levels with 30 x 5mm galv straps hooked over plate, straps n.l.t. 1.0m length, taken down inner wall face and securely fixed. Span 3No. minimum trusses with sw pack between member being restrained of n.l.t. 38mm thickness & ½ depth of restrained timber.

Provide code 4 stepped lead flashing at lower roof abutment to walls & to chimney stack roof penetration.
trusses to be as specialist Design and manufacture to BS5268 1998.Install trusses at 600mm c/c max.

Gable Anchorage Requirements
Strapping at gable verges of 30 x 5mm galv straps at 2m c/c, 1m long fixed over 170 x 50mm min noggings between 3 no rafters.

Ceilings
15mm plasterboard and skim to u/s of ceiling chords of trussed rafters and 12.5mm to underside of floor joists where applicable. Additional cross noggings to support board joints and edges.

Insulation
To horizontal ceilings separating roof, provide 3 layers of mineral quilt, min. 350mm total thickness. Bottom layer laid between joists and upper layer in opposite direction.
U-value of construction min. 0.16 w/mk at flat ceing position.

EXTERNAL WALL CONSTRUCTION
New external wall construction on single storey element to meet a U-value of 0.26W/m²K.
303 mm thick cavity wall, generally comprising 100mm Thermalite Turbo Block on inner leaf which will become dot, dab & skimmed, 100mm cavity fully filled with Dritherm 32 Cavity wall insulation, installed as work proceeds, 103mm brickwork to outer leaf. Walls tied together with stainless steel wall ties to BS 1243 spaced 900mm horizontally and 450mm vertically and set staggered. Cavities closed at external opening jambs with insulated closers. Wall ties installed in every block course at external opening jambs. Wall insulation installed to full height in gable walls.

Garage walls to be 225mm solid walls, block inner leaf and brick outer leaf.

INTERNAL WALLS

Ground floor levels
All ground floor internal walls to be of 100mm lightweight blockwork as per external wall spec built off foundation.

First Floor level
stud partitions indicated constructed with 100 x 47mm CLS timber studs and noggins with 12.5mm plasterboard and skim both sides. 25mm Rockwool insulation to be provided in voids to achieve sound value of 40 RwdB when tested to BS EN 140 Part 3 1993

LINTELS - EXTERNAL OPENING

Lintels over external and internal openings to be IG manufacturer, or equivalent approved. All lintels to have 150mm end bearings. Refer to general arrangement plans for lintel reference's.

DAMP PROOF COURSE
Dpc's to be Ruberoid Hyload pitch polymer and installed in both leaves of external wall. Internal dpc at finished floor level. Outer dpc at 150mm above finished ground level. In addition dpc require at concrete floor beam seating to provide sliding movement joint.

GROUND FLOOR CONSTRUCTION
75mm screed with reinforcement fibres or propreitary flowscreed, on 500 gauge polythene vapour barrier with lapped and taped joints. Kingspan Thermafloor insulation slabs 150mm thick below with 25mm vertical upstand at perimeter to avoid cold bridging. 1200 gauge polythene with joints taped and lapped laid onto specialist designed beam and block floor system. DPM turned up at floor perimeter to link with main wall dpc. 150mm clear void below.
Beams to be placed on DPC at end bearings. Minimum of 175mm clear void to be provided below underside of beams with cross ventilation of building by proprietary cranked ventilators installed at sufficient centres(2m max) to provide a minimum of 1500mm2 clear opening per 1000mm run. Any internal walls below floor level to incorporate openings to ensure cross flow. (equivalent to 100mm dia. clear void).

Garage to have 100mm concrete oversite over 1200g polythene laid on sand blinding onto a 225mm compacted hardcore base.

FIRST FLOOR CONSTRUCTION

22mm tongued and grooved jointed chipboard oil tempered chipboard fixed to 225mm deep metal web floor joists at 600 centres. Joists built in walls and fully sealed following installation. 100mm mineral quilt insulation laid continuously in floor void between joists. 12.5mm plasterboard and skim ceilings fixed to underside of joists with additional cross noggings fixed to support boards at joints. Lateral restraint provided where joists run parallel with external wall with 30 x 5 mm galv straps at 2m cc's fixed over 100mm deep noggins between 3 no joists. Straps built into wall and hooked into cavity.

FOUNDATIONS

Foundations to be strip foundations as per engineers design. Building Control to verify exposed foundation.
Generally - 1 layer of mesh to be provided in bottom of foundation.
New foundations, 1000mm below ground level. Foundation with outer leaf engineering brick to be used up to 2 courses below ground. 7Kn/m2 blocks to be used below ground level. If shrinkable soils are encountered a minimum depth of 1.0m is to be provided, Building Control and engineer if necessary to inspect as foundations are dug to ensure foundation design adequate for local soil conditions. Foundations indicative to standard local ground conditions and are recommended to be approved by an engineer prior to construction & in accordance with engineers advice.
Proximity of existing and proposed trees are to be taken into account in accordance with NHBC Chapter 4.2 when determining foundation depths.

WINDOWS AND DOORS
Refer to plans for sizes, style and opening lights.

General
All windows and doors in Upvc, with double glazed sealed units with K glass to achieve 'U' value of 1.4w/mk or better. Draught stripping incorporated and units sealed all round externally and internally with clear sealant to prevent air leakage.

All upstairs habitable rooms require a means of escape from the window of minimum 450mmwide x 750mm high to enable a free area of 0.33m². Escape Opening lights in first floor habitable rooms should be no higher than 1100mm from FFL.

Safety Glazing
External windows and doors where applicable in critical locations to be glazed in accordance with BS 6206 (to break safely on impact) all as Approved Document Part N including windows where cills are less that 800mm and fully glazed doors. Units glazed in safety glass to be identified by BS reference.

VENTILATION

Extract ventilation, 30 l/s adjacent to hob or 60 l/s elsewhere in Kitchen. 15 l/s in bathrooms, shower rooms & utility. Windowless sanitary accommodation 3 air changes per hour required with 15 mins overrun after usage. 10mm gap required under door Background ventilation as per building document requirement . 4000mm² Ventilators positioned in window heads at least 1.70m above floor level to avoid draughts.

All flow rates of the mechanical extract fans should be tested and commissioned and results provided to the LA Building Control no later than 5 days after the final test.

Purge ventilation.
Windows to habitable rooms - where a window opens 30 degrees or more the opening area must equal at least 1/20th of the floor area. Where a window opens less than 30 degrees the opening area must equal at least 1/10th of the floor area of the room it serves.

STAIRCASES
Handrail height on staircase and landings - 900mm high from nosing/landing floor, positioned on the widest part of the stair. Balustrade design capable of withstanding load criteria referred to in BS 6399 Part 1.1984. Landing depths to be min. same width as stair.Maximum gaps between vertical balusters to be 99mm

PLUMBING AND SANITARY PIPEWORK
All waste pipes and fittings in polypropylene to BS EN 1451 - 1

Waste sizes	-	Basins	- 32mm dia
		Sinks	- 40mm dia
		Showers	- 40mm dia
		WC's	- 110mm dia
		Baths	- 40mm dia

All fittings to have taps with 76mm deep seals except showers where trap seals can be reduced to 40mm if required.

Combined wastes taking 2 or more fittings to be min 55 min dia. Where waste pipe runs exceed 3m in length anti-syphonage traps to be fitted. Waste connections to soil pipes and soil and vent pipes at ground floor level to be at least 450mm above drain invert/depths.

Soil stacks and soil and vent pipes to be min 110mm. SVP's to terminate above roof levels and at a minimum of 900mm above window levels. Rodding points required to discharge stacks to give access to any inaccessible pipe lengths.

Internal Horizontal pipework to be encased with 25mm mineral wool (unfaced) wrapped around pipe & timber boxing.

Water Hygiene & Part G of the building regulations

Wholesome water to be supplied to drinking water point in downstairs WC and to wash-hand basin.

Dual flush wc's to be provided and high pressure taps to be avoided.

SMOKE DETECTION
Mains operated self contained smoke alarms to BS 5446 part 1 are to be installed in circulation areas within 7m of doors to high risk rooms ie kitchen, and 3m of bedroom doors. Alarms to be interconnected to allow detection by one unit to activate all units. Alarms to be permanently wired to separately fused circuit at distribution board with installation to conform to IEE Regulations. Fixing of units to be not less than 300mm from any light fitting. If wall mounted the unit is to be locate between 150 and 300mm down from ceiling level. Kitchen to be provided with heat detector & carbon monoxide detector to be provided in lounge.

HEATING SERVICES
HEATING SERVICES
General
Air source heating system to be used for heating and hot water generation.
Ground floor to have underfloor heating served off manifolds. Upstairs to be radiators sized by plumbing engineer.

Heating to have G/F and F/F separate zoning.

hot water to be a pressurised system, with tank in upstairs landing cupboard.

Heating and hot water pipework not contributing to useful room heating to be insulated.

ELECTRICAL WORK

internal efficient lighting and fixed external lighting to include energy efficient lighting with an min. efficiency of 45 lumens per circuit watt, total output greater than 400 lamp lumens. Efficient Fittings to be 100% of the total number of fittings provided.

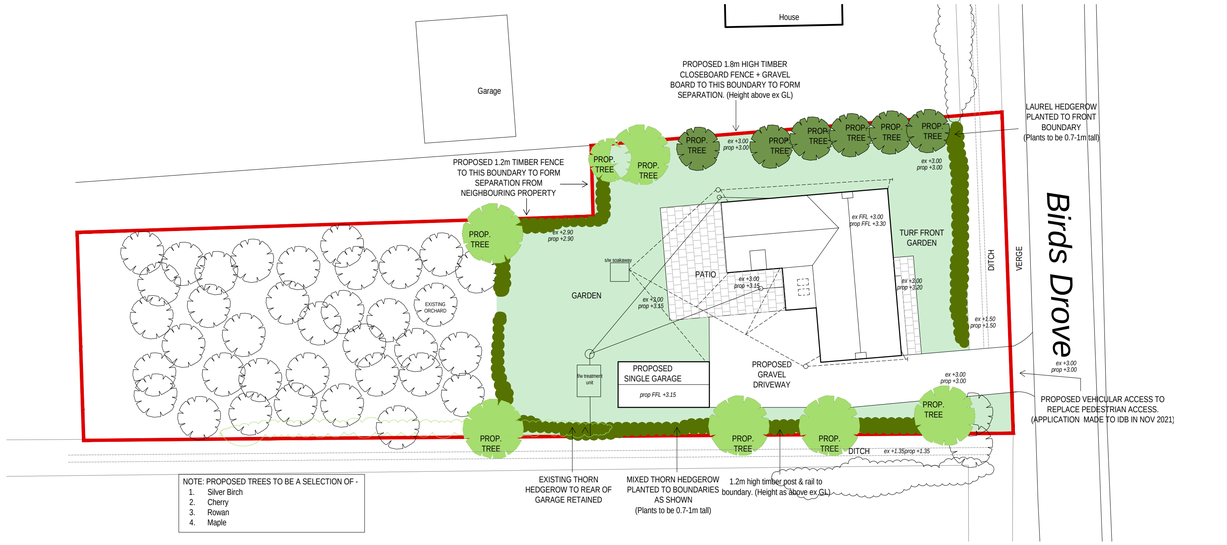
All electrical work carried out in accordance with BS 7671. Proposed installation to be carried out by a competent person registered with an electrical self certification scheme authorised by the Secretary of State to ensure compliance with BS 7671:2001 and all relevant Building Regulations. Upon completion of the works the client is to receive a signed Building Regulation self certification Certificate with a copy to be submitted to LA Building Control. Clients are also to receive a duly completed Electrical Installation Certificate or similar in accordance with Approved Document. Certificate is to be prepared and signed by the person responsible for the design installation and testing of electrical work.

DRAINAGE

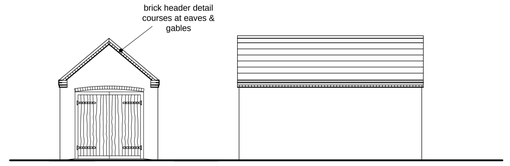
Foul Drains
100mm dia upvc to BS EN 1401 as shown on layout drawing. Foul drains to fall via gravity to a sewage treatment plant sized for a 4 bedroom house (max 8 persons). Pipe Bedding all as specified in Diagram 10 Par H1 for flexible pipe ie 100mm bed of granular material to BS EN 1610 Annex B graded from 5mm to 10mm max size. Bedding material to top of pipe level. 30mm cover of selected fill free from stones larger than 40mm. Pipes with inverts less that min recommended cover in tables 8,9 and 10 of Part H1 to be protected in accordance with Diagram 11. Part H1. Rodding points to be fitted with discharge stacks to give access to any inaccessible pipe length. 50mm clearance around pipe and inert rigid material to cloak void both sides to prevent ingress of vermin. Hole sealed around pipe with compressible material. 450 diameter grp inspection chambers and rodding access points in locations shown.

Surface Water Drains

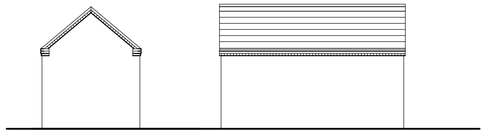
Surface water drains - 100mm upvc pipes and fittings, bedding etc all as foul drainage. Drains laid to 1 in 70 falls and to connect into below ground soakaway drainage system if found to be adequate, otherwise provide soakaways.
Where drains are subject to vehicular loading, pipes to be encased with 100mm concrete surround & movement joints all as diagram 12 document H1. Alternatively drain run bedded and pipe surrounded in pea gravel with 75thick concrete slab laid over with 300 bearing on original ground either side



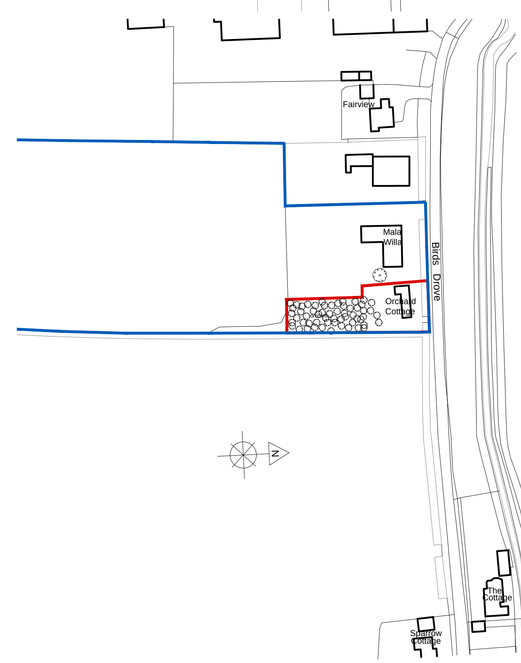
NOTE: PROPOSED TREES TO BE A SELECTION OF -
1. Silver Birch
2. Cherry
3. Rowan
4. Maple



Front Elevation *Side Elevation*



Rear Elevation *Side Elevation*

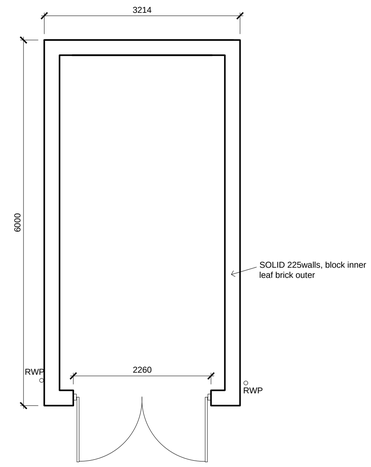


Location Plan at 1:1250

MATERIALS SCHEDULE

Bricks - Wienerberger Kassandra
Roof Tile - Natural Grey Slate
Rainwater Goods - Black plastic cast effect
Windows - Timber effect upvc (R9 or similar), cream
Doors - Black GRP Cottage style
Patio & Footpath Paving - Indian Sandstone (4 x sized slabs)
Driveway - Gravel
Driveway Apron - Grey Pavior - Blockpaved

Proposed Garage



Proposed Floor Plan

A - Drainage and materials schedule added

Applicant
Mr M Gray

Project
Replacement of existing cottage with new

Orchard Cottage
Birds Drove
Surfleet. PE11 4BE

Title
Existing Elevations & Proposed Garage

Date
JAN 2022

Scale
as shown

Drawing No.
BR - C - 203