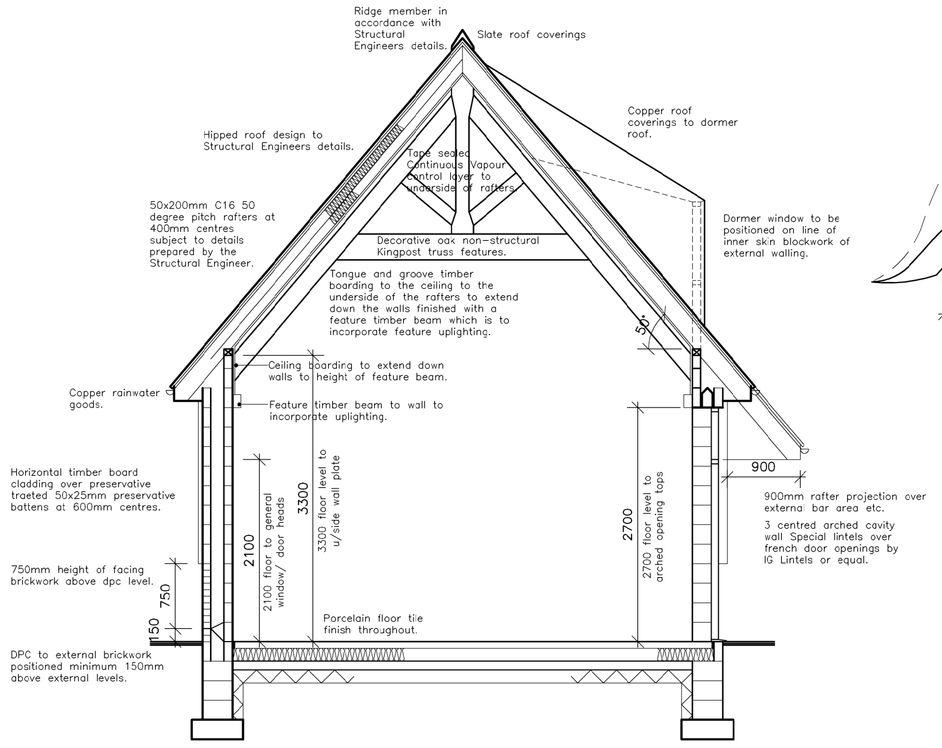
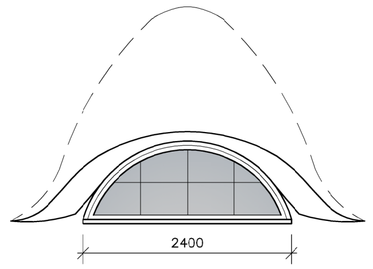
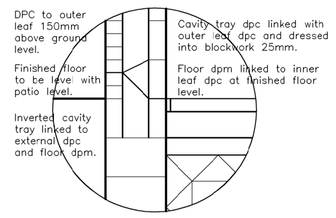
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REVISION:	DESCRIPTION:	MADE BY:	DATE:
A	Thatched roof coverings amended to slate	NH	February 2024



SECTION
SCALE 1:50





DPC DETAIL
SCALE 1:25
(Raised patio/paving levels)

CONSTRUCTION NOTES

Foundations
All foundations to be positioned centrally under walls. Depth of foundations to be in accordance with the drawings and the Local Authority's requirements, minimum 900mm and 1000mm if in clay. Details of footings are based on an assumed ground bearing capacity of 70Kn per metre sqaure and are subject to site inspection during the excavation of the works.
600 x 225mm continuous mass strip foundations to cavity walls.
450 x 225mm continuous mass strip foundations to 100mm loadbearing internal walls.
Non-loadbearing block walls to be built off thickened out floor slab 450 x 225mm deep.
All foundations and floor slabs to take account of both removed and retained trees and hedges in accordance with the Guidance contained within NHBC Chapter 4.2.
Foundation drawings, details and notes shown on the drawings and specifications are for indicative purposes only which are subject to full ground investigation results. Contractors cannot rely on the nature of foundations shown until full information of subsoil, including onsite, offsite and underground features are established, subsequent to excavations on site. The nature of subsoils influence the design of founcations when building near trees which cannot be established until excavations are made on site.

Ground Floor
Minimum 75mm sand/cement screed incorporating underfloor heating pipework over minimum 500 gauge polythene sheet to prevent the wet screed penetrating the joints and to act as a vapour control layer. NOTE: Maximum. 70 sq.m per single continuous floor slab area without breaks. VCL laid on 150mm Celotex GA4000 (or equal) flooring grade insulation (not polystyrene), with external perimeter insulation upstand of thickness to achieve minimum thermal resistance path of 0.75m2K/W, 100mm thick oversite concrete all on 1200G Visqueen DPM linked to horizontal DPC, on 25mm sand blinding, on 150mm minimum well compacted inert hardcore. 'U' value to be 0.13W/m²K or better (If meeting such standard would create significant problems in relation to adjoining floor levels, a lesser provision may be appropriate). NOTE: DPM position to be checked with insulation manufacturer.
Note: Maximum actual threshold of 0.18W/m²K requires thermal element compersation elsewhere, as per SAP calculation recommendations.

Resistance to Moisture
Assess all moisture risks including precipitation, wind driven spray, moisture emanating from the ground, as well as interstitial and surface condensation. Make appropriate provision to reduce all risks in accordance with the requirements of Approved Document C2.
The ability of the walls, floors and roof to resist the passage of moisture to the inside of the building to be assessed and damp proof courses and membranes to be provided where necessary.

Drainage
100mm diameter upvc pipes to BS 4660 with flexible joints laid to minimum 1:60 falls. Pipes to be bedded and surrounded with pea gravel. Inspection chambers to be 225mm Class B engineering brickwork laid in cement mortar on 150mm concrete base or alternatively inspection chambers to be upvc to suit upvc drainage system. Inspection chamber covers to be non-ventilcting and be secured ie. key operable. Rainwater drains to be pvc system minimum 1 in 80 gradients with pvc system rodding eyes and inspection chambers. Guttering to be 112mm and downpipes to be 68mm. Drains beneath the building to be encased in 150mm pea gravel. Drains passing through walls to have 150mm pea gravel surround extending 900mm on each side of wall and lintel over. Rigid sheet material to mask 50mm clearance around drain opening and wall. 32mm diameter waste pipe to wash hand basins, 40mm diameter waste pipes to sinks. All waste pipes connected to soil stacks to have 75mm deep seal traps. Where waste pipes exceed the maximum permitted lengths in Approved Document H then anti-syphon traps to be used. 100mm diameter upvc soil vent & waste pipe with built in grating at terminal. Drains with less than 600mm cover to be protected with 75mm concrete. Vent pipes to terminate 900mm above window/door openings when within 3.0m.

External Wall (Facing Brick) using Knauf Dritherm in a 150mm cavity
102.5mm facing brickwork external skin, 100mm block external skin behind timber boarded areas, 150mm cavity with 150mm Knauf Dritherm 32 (or equal) mineral wool cavity wall batt insulation (0.18W/m.K), built in as work proceeds in accordance with the manufacturer's recommendations, 100mm lightweight, minimum 3.5N/mm2, load-bearing insulating block inner leaf (thermal conductivity value no more than 0.11W/mK), to achieve U-value of 0.18 W/m²K or better. Internal walls of class B 3.5N/mm2 blockwork with 13mm render & skim finish to both faces. External wall cavities to be closed at window reveals, jambs and cills with cavity closer by Thermabate or equal, with insulation to avoid cold bridging to achieve minimum thermcl resistance path of 0.45m2K/W anc incorporating dpc. Wall insulation to overlap level of floor insulation by minimum 150mm. Stainless steel wall ties 275mm long at 450mm centres vertically and 750mm centres horizontally staggered, and at 225mm centres around openings. Textured polythene dpc to suit width of masonry, 150mm minimum above ground level. Provide IG lintel type Int.100mm, internal type lintels to all internal openings in 100mm blockwork. Openings to cavity walls to receive IG lintel type L1 S/150, standard insulated type with dpc cavity tray dpc over overextending 100mm each end. Note extra heavy duty loading type lintels to be used over openings below roof level to accommodate any point loads from girder trusses within roof layout. Minimum end bearing for lintels spanning up to 1200mm to be 100mm and spanning over 1200mm to be 150mm end bearings. Provide weak mix cavity fill leaving a minimum of 225mm cavity below dpc level. Sub structure walls to be built in blockwork/brickwork suitable for underground in 1:4 cement:sand mortar
Note: Maximum actual threshold of 0.26W/m²K requires thermal element ccmpersation elsewhere, as per SAP calculation recommendations.

Windows & Doors - uPVC
Windows to be UPVC frame with double glazed units to provide 'U' value of 1.0W/m²K or better. Windows to give 1/10th daylight and 1/20th ventilation of floor area. Area of windows, doors & roof lights together not to exceed 25% of floor. Escape to be provided to habitable rooms on ground and first floor by sash to open to give minimum 0.33m2 opening, minimum 450mm high and wide, bottom of opening to be maximum 1100mm from floor level. Provide mastic pointing on plastic foam backing to window/door frames and brickwork externally. Windows and doors to be set back in reveal so that cavity closers are overlapped by minimum 30mm. Any glazing below 800mm above floors to all windows and all glazing to doors and sidelights to be toughened safety glass and to comply with BS 6206, and Building Regulations. Over-rideable window opening restrictors to be provided to opening sashes within 800mm of floor level to leave max.100mm gap. To limit infiltration, all doors, windows, loft hatches and other openings to be sealed with draught seals or similar.
Note: Maximum actual threshold of 0.16W/m²K requires thermal element ccmpersation elsewhere, as per SAP calculation recommendations.

Ventilation
Background ventilation of minimum 10000mm² ventilation to main room and Kitchen provided by controllable window ventilators. Overall ventilation free area in accordance with Approved Document Part F, table 5.2a. Rapid ventilation to Kitchen provided by extractor fan ducted to external air extracting minimum 60 litres per second or 30 litres if positioned adjacent to hob.
Extractors serving WC without window to be operated by light switch to give extract of 6 litres/second and be fitted with 15minute over-run facility.

Main Roof - pitch as drawing
Roof tiles & ridges fixed in accorcance with BS 5534 on 50 x 25mm tanalised softwood battens on Tyvek Supro(or equal) breathable roof felt (felt to be allowed to 'drape' 25mm between rafters to allow drainage path below roof battens) on roof structure to Structural Engineers design.
50 x 100mm preservative treated softwood wallplates, fastened to inner leafs with 30 x 2.5 x 1000mm long galvanised mild steel straps at maximum 2000mm centres with 6No. fixings into blockwork.
Ceilings where following line of roof pitch to have 120mm Celotex XR4000 or equal rigid board insulation between rafters maintaining 25mm air gap over to allow Tyvek to 'drape' battens planted to underside of rafters (minimum 145mm overall rafter/batten depth). 60mm Celotex PL4060 to underside of rafters all to give 'U' value of 0.11W/m2K or better. Taped & jointed to form VCL.

Fireplace/Flues
Fireplace opening up to 500x550mm to have minimum 200mm diameter clay flue liners to BS 1181 with sockets uppermost and fully bedded in cement mortar in brick/blockwork chimney with void filled with weak mix mortar. Alternatively rectangular/square flues to have the same cross-sectional area as the 200mm dia. flue but with a minimum dimension of 175mm.
Fireplace opening in excess of 500x550mm of fireplace exposed on two or more sides to have a flue with minimum cross-sectional area equal to 15% of the total face area of the fireplace opening and if rectangular/square to have a minimum dimension of 200mm. However Specialist advice to be sought when flue is more than 15% of face of fireplace or when over 0.12m2.
Closed appliances to be installed with flues sized in accordance with rated output and Building Regulations Part J Table 2.
Durable notice to be provided affixed in a suitable place in the building containing information on the performance capabilities of the hearth, fireplace, flue & chimney for the purposes of enabling combustion appliances to be safely installed. Combustion air to fireplace to be provided by air brick in external wall or underfloor duct to provide a rate no less than that specified in Aproved Document Part J table 1 (acknowledging the air permeability of the building).
Non-combustible hearth to be provided to project minimum 500mm and extend minimum 150mm each side of fireplace recess. Free standing solid fuel appliances to have minimum 840x840mm non-combustible hearth, min. 12mm thick, extending min. 300mm to front & 150mm to either side.
Code 4 stepped lead flashings, front apron and back gutters as required at chimney/roof abutment.
High bond dpc or engineering brick dpc to be incorporated in stack to prevent water penetration.

Carbon Monoxide detector, complying to BSEN 50292:2013 to be fitted in rooms containing a new solid fuel appliance. Detector to be sited on ceiling, at least 300mm from wall and between 1000mm and 3000mm measured horizontally from appliance

Concealed flue pipes must be continuous throughout their length, joints correctly assembled and sealed, adequately supported and of correct gradient. Access hatches should be min 300x300mm or larger and in accordance with Approved Document Part J, diag 14

Fire Detection and fire alarm systems
To be provided with a fire detection and fire alarm system in accordance with the relevant recommendations of BS5839-6:2019 to at least a Grade D Category LD3 standard.

Smoke Alarms
Smoke alarms to be interconnected and to be positioned in accordance with manufacturers instructions and to BS EN 14604:2005.
The power supply for a smoke alarm system to be derived from the mains electricity supply. The electrical installation should comply with Approved Document P (Electrical safety).
Smoke alarms / detectors should be sited so that there is a smoke alarm in the circulation space within 7500mm of the door to every habitcble room detectors to be a minimum 300mm away from light fittings and walls; the sensor in ceiling-mounted devices is between 25mm and 600mm below the ceiling (25-150mm in the case of heat detectors or heat alarms). Heat detectors to BS 5446-2:2003.
Alarms / detectors should be possible to reach to carry out maintenance (testing / cleaning), should not be fixed next to or above heater or air-conditioning units or in bathrooms or places where steam, condensation or fumes could give false alarms. Alarms / detectors should also not be places in places that are known to get very hot, such as boilers rooms etc.

Heating System (ASHP & UFH)
Underfloor Heating System to BS EN 1264, powered by Air Source Heat Pumps to suit, with zone control ie. living areas and sleeping areas controlled independently. Programmer to enable operation of heating to be separately timed in each zone. Radiators to first floor rooms controlled by room thermostats and/or thermostatic radiator valves with bypass within system. Heat pumps able to switch off when no heat is required.
Hot water to be provided by heat pump, stored in minimum 35mm foam insulated (minimum density 30kg/m3) hot water cylinder with immersion for seasonal use. Heat pumps to be designed & installed to BS EN 16147:2017.
Pipes between boiler and cylinder to be insulated in accordance with BS5422:2009.
Siting of heat pumps as Approved Document J of the Building Regulations, positioned min. 1m from boundary, on a flat surface & volume not to exceed 0.6m³.

Lighting
Provision to be made for energy efficient lighting at one per 25m2 of dwelling floor area or one per every four fixed light fittings. Luminaires to have efficient lighting points and to be provided within dwelling where lighting can be expected to have most use to comprise fixed lighting (comprising either basic lighting outlets or complete luminaires) that only take lamps having a luminous efficacy greater than 45 lumens per circuit-watt (ie fluorescent tubes and compact fluorescent lamps). Not GLS tungsten lamps with bayonet cap or Edison screw bases.
External-lighting, excluding garages and carports, to have lamp capacity that does not exceed 100W per light fitting and effective controls i.e extinguish when there is enough daylight and when not required at night or alternatively light fittings to be limited to take lamps with an efficacy greater than 45 lumens per circuit watt.

Electrical
All electrical work required to meet the requirements of Part P (Electrical Safety) must be designed, installed, inspected and tested by a person competent to do so. Prior to completion the Council should be satisfied that Part P has been complied with. This will require an appropriate BS 7671 electrical installation certificate to be issued for the work by a person competent to do so.
Switches and sockets for lighting and other equipment within habitable rooms to be located between 450mm and 1200mm above finished floor level. The consumer unit shall be positioned so that the switches are within 1350-1450mm above finished floor level and shall be of a temper-proof box of metal design in accord with the IEE Regulations.

Vented hot water storage systems
All vented hot water storage systems to have a vent pipe of no less the 19mm internal diameter. The pipe is to be open to the atmosphere above and over the level of the water in a cold water storage cistern conforming to BS4213:2004 Cisterns for domestic use.
In addition to the vent pipe and any thermostat provided to control the temperature of the stored water. An appropriate safety device should be fitted to safely discharge the water in the event of significant over heating. I.e a temperature relief valve or a combined temperature and pressure relief valve. Or for systems with a direct heat source a non self resetting energy cut out and systems with indirect heat source a cut out to disconnect the supply of heat so that the temperature of the stored water does not exceed 100 degrees C.
All hot and cold water installation in accordance with BS 8000-15:2014 Workmanship on Building Sites Code of practice for hot and cold water services (domestic scale).

1:50 0 0.5 1 1.5 2.5 m

CLIENT:	Smiths Electrical Ltd
PROJECT:	Proposed Summer House
	Waites Barn Seas End Road Spalding PE12 6LD
TITLE:	Section, details and construction notes
SCALE:	1:50
REVISION LETTER:	A
DRAWN:	NH
DRAWING NO:	B/3804-5003
CHECKED:	
ORIGINAL SIZE:	A1
DATE:	June 2023

Architectural Consultants

BOSTON 12-14 Main Ridge West, Boston PE21 6QQ t: (01205) 357 272 e: boston@neildowlman-architecture.co.uk
STAMFORD 14 Barn Hill, Stamford PE9 2AE t: (01780) 758 522 e: stamford@neildowlman-architecture.co.uk
ALFORD* 4-5 Church Street, Alford LN13 9EF t: (01507) 463 863 e: alford@neildowlman-architecture.co.uk
HORNCASTLE* 28 St Lawrence Street, Horncastle LN9 5DN t: (01507) 522 899 e: horncastle@neildowlman-architecture.co.uk
LOUTH* 62 Northgate, Louth LN11 0LY t: (01507) 601155 e: louth@neildowlman-architecture.co.uk
SKEGNESS (Satellite Office) t: (01754) 880 080 e: skegness@neildowlman-architecture.co.uk
*By appointment only

www.neildowlman-architecture.co.uk

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