Building Regulations/General Construction

Foundation line loads / point loads to be calculated; for foundation design, dimensioning and detailing see structural engineer's drawings SW 22-217-200.
Deep strip concrete foundations to be dug to suitable bearing subsoil of suitable bearing capacity. Reference should be made to the structural engineer's assessment using the ground investigation report and assessment of nearby trees and potential soil shrinkage issues. Refer to Geotechnical Data and test reports to confirm any contamination issues, if appropriate, to Environment Health's Approval.
Bearing strata to be visually inspected and determined in-situ with building inspector and structural engineer.
Excavate for and construct new concrete footings in accordance with structural engineer's details and associated specification sheets. Footings to be located centrally under new walls unless specified otherwise by engineer. Install lintels to span over any drains found in accordance with Engineer's details and protect and mask around openings in accordance with diagram 7b of Approved Document H 2010 editions (incorporating 2015 amendments).
The presence and impact of the trees / hedges on site must be accounted for by the Structural Engineer in his design for the foundations, underground drainage, service routes and substructure.

Service Intakes - Standard 25mm MDPE Domestic Mains water normally laid at a depth of between 0.75m and 1.35m from finish ground level to rise to intake through slab to be ducted and fully insulated / sealed and bonded to DPM all in full accordance with the water authorities' requirements.
Soil and ground water samples should be taken and tested in which the water service is laid within to allow in remediation measures / alternative barrier pipe material selections be made to maintain a safe water supply.
All cables and pipework routing from the rear of the electric consumer meter box are to be fully sealed around. No air gaps are to be present.
Electric consumer meter box to be located within the standard 1.8m tail distance to the Consumer Switch box location.
BT cable intake from external face fixed service intake box to be fully sealed around internally and externally at penetration through external wall construction.

Ductwork to be installed for a high speed network capable of 30 Mb/sec or greater to a fixed network termination point for connectivity in the dwelling to host and provide a service route so that a broadband service can be easily procured and delivered to the property in accordance with Part R of the Approved Documents.

Substructure - Walls below dpc to be constructed in 7N/mm^2 dense concrete frost resistant blocks suitable for the purpose as recommended by the block manufacturer and confirmed by structural engineer.
Walls below dpc may be constructed using Thermalite T&G Trench blocks in accordance with the structural engineers' details.

Construction to be 100mm block inner leaf, 200mm cavity and 100mm block outer leaf (outer leaf to be in dense concrete frost resistant facing brickwork to courses immediately below dpc where outer face will be exposed). Leaves to be tied together using min. 325mm long stainless-steel wall ties as recommended by the manufacturer as suitable for this application, set with min. 62.5mm embedment in each leaf. Ties to be installed at 600mm centres horizontally and 300mm centres vertically. Cavity to be backfilled with lean mix concrete (1:12) to a min. of 225mm below DPC. Upper surface of lean mix to be angled so as to shed cavity born moisture to the outer leaf.

All intermediate span sleeper walls for beam and block flooring to be constructed in a honeycomb pattern to allow full cross void ventilation through the void.
Cranked underfloor ventilators to each have an equivalent ventilation area of 6,000mm2 and shall be coursed to suit the construction details. Underfloor vents to be attached to an air brick to terminate to external air and spaced to achieve an overall minimum linear ventilation area of 1,500mm2 vent area per metre run of wall.

Damp Proof Course (DPC) (Non-Radon Sites)
Horizontal damp proof course (DPC) to be installed at base of all walls (both leaves) minimum 150mm above adjacent ground level. DPC to be Caviroll Premium solid polyethylene with grip grid surface (conforming to BS6515:1984) by 'Cavity Trays Ltd', Admin Centre, Yeovil, Somerset BA22 8HU (01935 474769) or equal approved installed in strict accordance with manufacturer's recommendations.

Ground floor - Refer to Geotechnical Data and test reports to confirm any contamination issues. If appropriate, to Environment Health's Approval, Strip top soil and vegetable matter to suitable depth to allow construction of new floor. Spray to prevent weed growth etc. Excavate to correct levels and install new floor as follows to finish flush with existing floor in dwelling. Min. void dimension to be adhered to particularly in clay soils, volume potential to be assessed and min clearance given ranging from min. 200mm for low potential to 300mm for high potential.

New floor to comprise minimum 65mm proprietary screed with integral fibre reinforcement or lightweight mesh, screed to integrate underfloor heating pipe network, laid on 500-gauge slip membrane on minimum 150mm Xtratherm XT/UF insulation or equal approved (with 30mm upstand to FFL at perimeter to reduce cold bridging) on 1200-gauge polythene damp proof membrane, fully lapped (min 300mm), sealed and bonded to dpc in walls (min 100mm sealed overlap), at perimeter on grouted beam and block floor (150mm beam depth).
Floor DPM to be rated according to site conditions with test data and Certification provided to suit ground condition exposure at this location.

Beam and block floor to be to specialist's design. Full details to be produced by specialist and to be submitted to and approved in writing by Local Authority Building Control and Structural Engineer prior to fabrication. Top surface grouted with a 1:6 cement: sand mix in accordance with the manufacturer's instructions. Blockwork should be flooring grade and loadbearing to suit the manufacturers tests and certification.
Beam and block floor to be seated on Cavi-roll Premium DPC (or equal) at all support points.

Overall floor U-Value to be 0.12W/m2K based on a floor P/A ratio of 0.75.
Ventilated void to be provided immediately beneath underside of beam and block floor. Void beneath floor beams to be a minimum of 200mm clear.

Structural Steelwork - Refer to structural engineer's drawings and calculations for full details including requirements in respect of padstones, steelwork sections such as columns / beams / rafters where required for support.

Internal Walls (Loadbearing)
100 and 140mm loadbearing blockwork to ground floor partitions, see structural engineer's drawings for locations. 140mm blockwork continued upper floors as shown on first and second floor plans. Block walls to bedrooms and sanitary facilities to have minimum mass per unit area, excluding finish 120 kg/m^2.

100mm blockwork
140mm blockwork

External walls to comprise 102.5mm facing brick outer leaf in type, colour, finish TBC, bond to be Flemish bond. Cavity to be 150mm or 200mm Dritherm 32 full-fill insulation batts (or equal to achieve U=0.18 w/m2k) to suit blockwork thickness all built in as work proceeds in strict accordance with manufacturer's instructions.
100 and 140mm loadbearing insulating blockwork to give an overall wall U-Value no worse than 0.18W / sq. m K. See structural engineer's drawings for locations of blockwork thicknesses.
Wall insulation to continue down to 150mm below level of top surface of floor insulation to ensure effective thermal lap. All perpends and bed joints to be fully filled.
Inner face of blockwork to receive 13 plaster and skim finish.
Wall leaves to be tied together using 325mm stainless steel wall ties at 750mm centres horizontally, 225mm centres vertically in staggered formation and at 225mm centres vertically within 300mm of all unbonded openings. All wall ties should be installed with a minimum 62.5mm embedment and so that they slope towards the outer leaf when embedded in mortar joints.
Assumed tie is Ancon ST1, note Ancon advise that their 2-part tie is not suitable for full-fill cavities.

Proprietary cavity trays to be provided above all openings (doors, windows, meter boxes etc), where not protected by deep eaves overhangs, by 'Cavity Trays of Yeovil', or equal approved installed in strict accordance with manufacturer's recommendations. Trays to continue minimum 150mm beyond lintel ends and to have stop ends as recommended by the manufacturer.
Perpends to be left open at 450mm horizontal centres to full length of tray and to have proprietary weephole inserts installed.
Cavity trays and integral step flashing to be installed at junction of new lower roof with new upper external wall of dwelling to full width of abutment to prevent water ingress to building interior below roof level. Cavity tray to be Type X by 'Cavity Trays of Yeovil', or equal approved installed in strict accordance with manufacturer's recommendations.

Timloc Thermo-loc FR, fire-rated Insulated cavity closers to be provided to jambs and sills of all openings. Closers to suit cavity (150mm or greater up to 300mm - giving a min. thermal bridging resistance of 0.77w / m K). Closers to be installed in strict accordance with manufacturer's recommendations.

Lintels to structural engineer's specification and drawings and to be installed in strict accordance with manufacturers recommendations in all respects.
Beams over larger openings to structural engineer's drawing SW 22-217-300, cavity trays over as above.

Movement joints to front elevation (behind rwps) to structural engineer's structural engineer's drawing SW 22-217-300
Masonry reinforcement to structural engineer's drawing SW 22-217-300, 301

Intermediate Floors
Upper floor to be metal-web joists (assumed 253mm deep Posi-Joists) subject to engineered design by specialists, install strictly in accordance with manufacturer's instructions. Allow for all necessary trimming around staircase void and around vertical pipework. All floors should be laid level and even.

Walls adjacent to floor joists/ceilings should be adequately restrained using proprietary restraint type joist hangers OR 30x5x1500mm long galvanized mild steel lateral restraint straps with 100mm turn-down to be fixed to blockwork and fastened to 3 No. floor / ceiling joists at maximum 2000mm centres. 50 x 100mm softwood noggins to be securely fixed between joists in line of straps to provide secure fixing and backing.
All open metal web engineered joists spans between 4.0m and 8.0m shall receive midspan strutting in the form of a Strongback joist, any joists spanning over 8.0m shall receive 2 rows of strutting in the form of Strongback joists at 1/3rd points in the span length in accordance with the joist manufacturers design details.
Paired or multiple joists to be located beneath all upper floor non-loadbearing partitions, Baths and Hot Water Cylinder locations to provide additional loading support as required.

Floor structure shall be designed and constructed to achieve the min required Airborne sound insulation value of 40 Rw dB for all internal floors in accordance with Approved Document E and (Diagram 5.7). Floorboards to achieve a min mass per unit area of 15 kg/m2, ceiling board should be a single layer of plasterboard of min mass per unit area of 10 kg/m2 and an acoustic absorbent layer of 100mm mineral wool insulation laid between joists with a min density of 10 kg/m3.

All floor decking boards shall be 22mm P5 flooring grade chipboard with T&G edges to suit joists at max 600mm centres and set a min of 10mm from the abutting perimeter edges of enclosing blockwork walls. All boarding at perimeter edges spanning between joists shall be supported by timber noggings to support the board edge. All glued & fixed in accordance with Posi-Joist manufacturer's instructions.

All joist hangers should have a min bearing of 35mm unless variance to this is designed & tested and proven by the joist hanger manufacturer. All joists should have a max 6mm gap between the joist end and the hanger at each bearing point.
All joists set on hangers to intermediate steel beams shall be fixed to a solid timber infill bolt fixed within the web of the beam in accordance with the structural engineers' details.
All joists bearing onto any intermediate steel beams should be set elevated with a min of 12mm gap up from the steel beam top surface to allow for future timber shrinkage. The same applies for the top of any lower floor masonry wall from beneath terminating within the floor void.
All joists which are built into the walls shall have a min bearing of 90mm with all gaps fully packed and sealed. For all engineered joists, all joist ends shall be fitted with insert sections / stiffeners or blocking to close the web void of the joist profile within the wall bearing region.

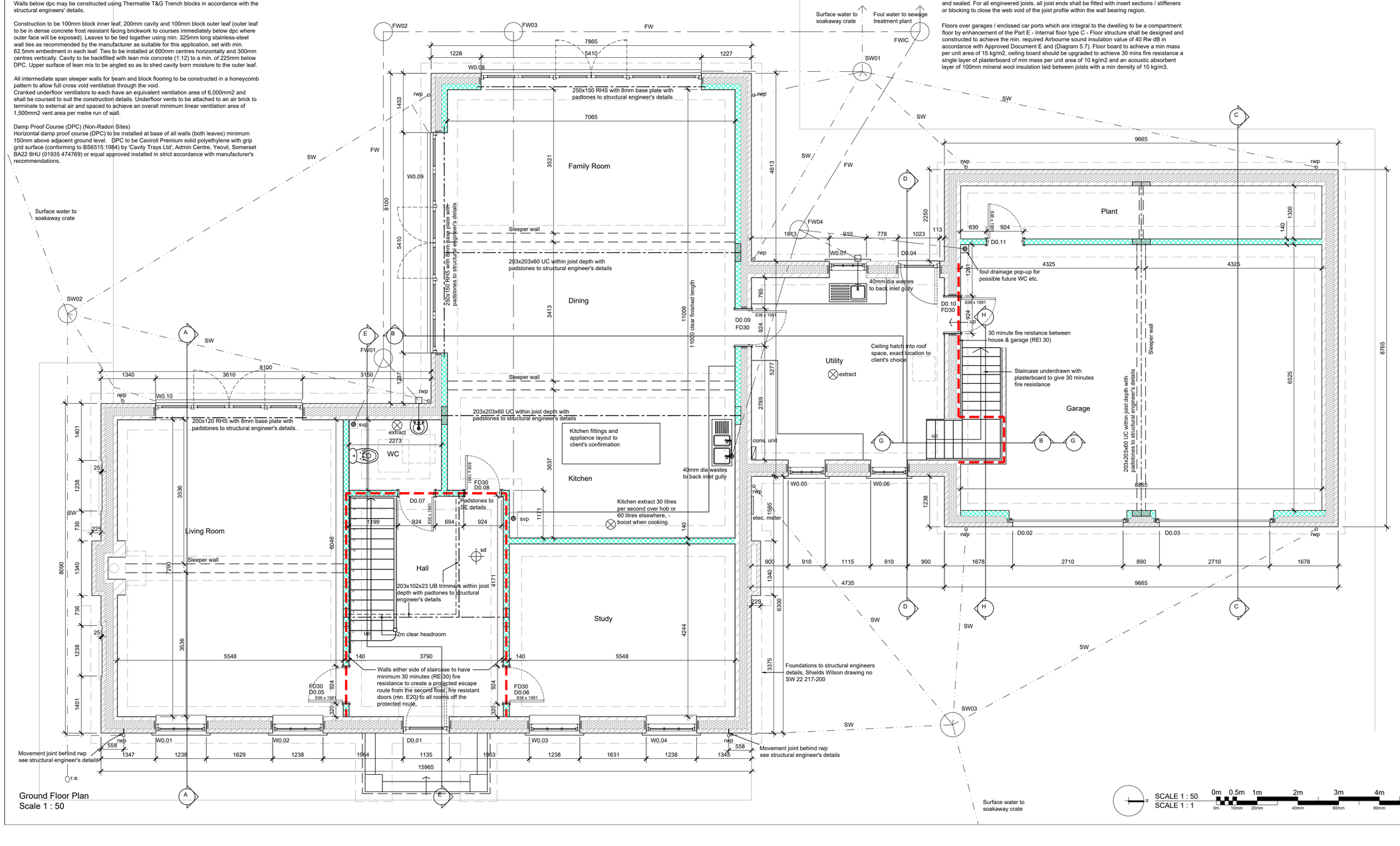
Floors over garages / enclosed car ports which are integral to the dwelling to be a compartment floor by enhancement of the Part E - Internal floor type C - Floor structure shall be designed and constructed to achieve the min. required Airbourne sound insulation value of 40 Rw dB in accordance with Approved Document E and (Diagram 5.7). Floor board to achieve a min mass per unit area of 15 kg/m2, ceiling board should be upgraded to achieve 30 mins fire resistance a single layer of plasterboard of min mass per unit area of 10 kg/m2 and an acoustic absorbent layer of 100mm mineral wool insulation laid between joists with a min density of 10 kg/m3.

First & second floor internal walls (non-loadbearing - Part E acoustic rated)
Timber or metal studding min. 75mm between linings or 45mm with a metal frame.
1no layer of plasterboard of minimum mass per unit area 10kg/m2. All joints well sealed.
An absorbent layer of unfaced mineral wool batts or quilt (minimum thickness 25mm, minimum density 10kg/m2), which may be wire reinforced, suspended in the cavity.
12mm plywood pattress added to the face of the studs across wall panels where appliance fixings & support will be required, ie.: toilets, basins, shower cubicles, mirrors, accessories and any other heavy permanent fixtures.

Internal Walls (Non-Loadbearing - Non-Acoustic Rated) as above but without the insulation quilt.

Staircase Details- see drawing no A1490-16

Below ground foul and surface water drainage - see Shields Wilson details and drawings SW 22-217-10A, SW 22-217-11, SW 22-217-12 and SW 22-217-CAL-C-01 for full details.



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ALL DETAILS MUST BE CONSTRUCTED IN ACCORDANCE WITH ACCREDITED CONSTRUCTION DETAILS FOR PART L (www.planningportal.gov.uk)
References to Accredited Details are indicated at typical locations on plans and sections but apply to all circumstances in which they occur.

All dimensions indicated are structural, i.e. block to block or block to stud unless stated otherwise.

The purpose group for this building is Residential 1 (b) – A Dwellinghouse that contains a habitable storey with a floor level a minimum of 4.5m above ground level.
The height of the top floor is 5.9m, the period of fire resistance for dwelling houses with a top floor between 5m and 18m high is 30 minutes.

Materials to comply with appropriate British Standards or Agrément Certificates. Alternatively, the materials should be marked, stamped, independently certified or otherwise justified by test or calculation to show their suitability.
Materials should generally be in accordance with BS8000 series of documents and other accepted good practice (eg. Quality assured to ISO 9000).
Test certificates for materials and equipment such as emergency lighting, fire alarms and concrete test cubes will be required to be submitted prior to the issue of a Final Certificate.

Ref.	Date	Description	Initial
BR2	31.03.23	Revisions to windows and rooflights, omit canopies	AP
BR1	01.12.22	Building Regulations application	AP

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Project:
Proposed new dwelling
Eaugate Road, Moulton Chapel
Spalding, PE12 0XJ

Drawing Title:
Ground floor plan as proposed

BUILDING REGULATIONS

Date:	Scale:
Jun 22	as shown @ A1
Drawn by: AP	Checked by: AJO

Drawing Number:	Rev:
A1490-11	BR2