



section b

Foundations
Footings to comprise trench fill foundations to SE details (Andrew Kemp Consulting Engineer). Final depth to be agreed on site with Building Control.

Steelwork
Refer to details, provided by SE, including finishes and protections where noted. All steelwork to be designed and fabricated by specialist contractor, with dimensions taken on site to ensure suitability and fit.

Ground Floor
Existing concrete slab floor to be brought to level.
Over lay slab with 1200 gauge visqueen DPM all joints lapped min 300mm and taped, and with DPM turned up all round perimeter of floor and taped to dpc atop edge block. Install 100 mm Celotex GA4000 with tightly butted and fully taped up joints. Protect insulation during the works, and use walk boards when trafficking. Install 500 gauge visqueen vcl below proprietary 65mm (minimum) sand cement floating screed, with fibre reinforcement as specialist manufacturers design. Include 25mm Celotex TB4000 insulation vertically at all screed perimeters. Refer to Constructive Details for sealing and stopping.
PIA 0.53; U value 0.17W/m²K

External Drainage (foul & surface water)
Refer to drawings and details. New foul pipework to be routed above ground to new macerator / pump, to specialist manufacturers design and detail. Outfall from pump to existing wc connection, or existing external chamber. Any below ground pipework to be 100mm dia run at minimum 1.80 falls, in class C bed and surround, except where less than 600mm cover achieved, to receive reinforced concrete protection over.
Contractor to identify all drains on site prior to commencement on site.

External Walls
NOTE: existing external walls to have existing internal linings removed. It is assumed for the purposes of the insulation and lining strategy that the existing walls are 1 brick thick (min 215mm).
Make good to existing masonry in facing brickwork, or 100mm 3.6N Celcon Standard blocks or equal, in 1:1:6 mortar, fully toothed into existing.
Generally: All masonry below ground floor to be frost resistant brick or 7N blockwork. Above ground to be as above.
Line out all external walls internally with 100mm Celotex GA4000, direct to masonry, with all joints sealed with foil tape to form vcl (vapour control layer). Insulation boards to be secured to rear of 25x50 treated sw battens to form wiring void, and lined out with 12.5mm plasterboard. Insulation to be carried up, and taped to roof insulation.
Refer to Constructive Details.
Where indicated, install stained sw weatherboarding to exterior, on 25x50 treated sw vertical battens with continual air gap to top and bottom, with insect mesh.
U value 0.18W/m²K

Internal Walls (masonry)
New blockwork wall between annexe and garage / utility, to be constructed off new foundation, with new horizontal dpc to line with new finished floor level. Wall to be formed in 100mm 3.6N Celcon Standard blocks or equal, in 1:1:6 mortar, or similar, tied to existing external walls with stainless steel wall starter, including ties at max 225 vertical centres. Ties to receive debonding sleeves, with flexible movement joint formed with intumescent sealant over compressible foam strip. Wall to be fully fire stopped to underside of roof covering. Include padstone under new ridge beam to SE details.
Wall to be lined to annexe side as noted above for existing external walls.
U value 0.18W/m²K

Internal Walls (timber framed)
New timber framed walls to be constructed from 50x100 sw at max 600mm centres under flat ceilings, and 400mm centres where extending to roof level. Partitions to be lined to each side with 12.5mm 10kg plasterboard, and receive 50mm mineral fibre insulation between studs.
Walls to be built off horizontal dpc on nominal height 100mm blockwork, built off 300mm wide dpc sealed on existing slab, or off new footing. Blockwork to finish at circa new finished floor level. Ground floor dpm to be turned up perimeters of blockwork, and taped to dpc.

Pitched Roof (cut roof)
Roof to comprise ridge beam, cut rafters and ceiling ties etc to SE details.
Rafters to be seated on treated 50x100 sw wall plates secured with truss clips with all holes nailed, as engineers details. Wall plates to be mortar bedded and strapped to masonry below at max 2.0m centres with 30x5x1350 galvanised steel straps. 3no. joists / rafters / ceiling joists adjacent to parallel walls to be strapped to masonry with 30x5x1350 galvanised straps at joist level, and at max 1.8m centres. Include for solid noggins between joists on lines of restraint straps and to support all free edges of plasterboards etc.
Wall plates to be packed up as necessary to provide for ceiling level and eaves details consistent throughout building.
To top of rafters, install breathable sarking membrane as Tyvek Supro or similar for use in unventilated construction, with nominal sag between rafters to drain, to lap onto eaves underlay gutter skirt, into gutter, at eaves level. Install clay pantiles to client choice on 25x50 treated sw battens at manufacturers required gauge and head lap, tiles to be fixed in accordance with BS 5534: 2014. Ventilated ridge tiles bedded in 1:3 mortar and clipped.
Generally insulate between 220 deep rafters with 175mm Knauf Rafter Roll 32 mineral fibre insulation with air gap over, and underline rafters with 50mm Celotex GA4000, fully taped with foil tape as vcl.
Where the ceiling follows the line of the rafters, underline with 50x50 sw battens to form wiring and lighting void, and line with 12.5mm plasterboard.
Ensure that roof insulation is contiguous will wall insulation, and taped to the same to form vcl.
To flat ceilings, underline joists with 12.5mm plasterboard, and install 100mm mineral fibre over.
U value 0.15 W/m²K

Windows & Doors
Double glazed upvc / thermally broken upvc / aluminium windows to be installed with front of frame set 30mm back from face of masonry, and to be sealed internally and externally with flexible sealant. Include thermal laminate lining to all opening jambs and heads to prevent cold bridging of existing masonry, and include packers to frames and heads as may be necessary to ensure operation of windows and trickle vents.
U value 1.3W/m²K (or better)
French doors to be double glazed as above.
U value 1.3W/m²K (or better)
All ground floor windows and doors to be to PAS24 standard and incorporate key locking hardware.
All windows to be installed to AD Q, by FENSA registered installer, with certification passed to Building Control upon completion.
Include night vent facility to all windows, and safety glazing where shown to BS6206. Windows noted for means of escape to have keyless access be hung on fire egress easy clean friction hinges.
Trickle vents to be included as noted.

External Doors
Doors generally as above.

Internal Doors (& ironmongery)
Internal doors to client choice and sizes indicated on drawings, in 32mm softwood linings to full width of partition, hung on 1 1/2 pair 75mm plated butt hinges per leaf. Ironmongery to client choice.

Finishes
To client choice.

Fittings
Layouts shown are indicative, and to be confirmed by client.
Kitchen design, including refuse provision, to be by specialist designer / supplier in accordance with client requirements.
Sanitary fittings to be by specialist designer / supplier in accordance with client requirements, and to be in accordance with requirements of Water Efficiency, max consumptions as below.
WC 6/3 l dual flush
Shower 10l/min
Bath 180
Basin taps 8l/min
Sink taps 8l/min
Dishwasher 1.25l / place setting
Wash Mach 8.17l / kg

Above Ground Drainage
Provide new drainage connections to all new fittings comprising Marley push fit / solvent welded soil and vent system, in boxings as required (min 2 layers moisture resistant plasterboard, with void filled with min 50mm thick mineral fibre insulation). Ensure rodding access at all changes in direction. Include for Durgio air admittance valves where shown, and connection to below ground waste system. Pipe sizes / falls to be as AD H, Table 2 & Diag 3
Shower & wc to receive 50mm deep seal traps, all other fittings to be 75mm diameter of traps / wastes as shown on drawings. Wrap stub stacks, branch drains within floor voids and svps etc in 50mm mineral wool, before boxing in. Svp at head of run to be to terminate through roof via flexible 100mm diameter duct to terminate at inline vent tile by specialist roofing contractor, min 900mm above window heads / opening rooflights within 3.0m.

Heating & Hot Water
Design by specialist manufacturer / installer in line with clients requirements and the Domestic Heating Compliance Guide. System to comprise either:
1. new underfloor hot water system to each room, and insulated hot water tank fed by air source heat pump (with secondary immersion heater to tank) to specialist contractors design. All spaces to receive individual thermostats, and central programmer / timer. Include dual fuel towel radiator in shower room.
2. new electric underfloor heating mat system to each room, and on demand electric water heaters / pumped shower, all to specialist contractors design.
All spaces to receive individual thermostats, programmer / timer with manual boosts. Include dual fuel towel radiator in shower room.

Designs to be passed to building control, with commissioning certificate also passed upon completion.

Ventilation
Include through wall / ceiling mounted extract vents to kitchen, utility and sanitary spaces etc to give minimum values noted below to be humidistat controlled, linked to light switch, and with timed overrun. Where ducts run in roof voids to be insulated flexible ducting fitted with condensate trap and overflow. Include to carry out volume checks on extracts following installation, and pass details to Building Control. A spillage test may also be required in left kitchen due to the inclusion of the woodburner.

bathrooms / ensuites / shower rooms	15l/s
wc	6l/s
kitchen	30l/s (cooker hood, or 60l/s elsewhere)
utility / shower	30l/s

Electrics
Design by specialist manufacturer / installer in line with clients requirements and the Domestic Building Services Compliance Guide with design to be passed to Building Control for approval prior to commencement of works.
All works to the fixed electrical system including earthing and bonding to be carried out in accordance with the IEE Regulations by a competent registered person (Part P self certification scheme) with BS7671 certification to be passed to Building Control & the client on completion.
Include all necessary isolators etc, and fused spurs below worktops with switches above to all new fittings in kitchen and utility.
All socket outlets to be positioned with underside 450mm above floor level, with all light switches and boiler controls, thermostats etc to be mounted with centreline at 1100mm. Include all necessary isolators etc, and fused spurs below worktops with switches above to all new fittings in kitchen etc.

Include new low energy lighting to all new fittings only (lighting efficacy 75lm/W). Any recessed luminaires to be fitted with LED lamps. Include external light fittings operated by photoelectric cell, PIR sensor and internal isolator switch, and with efficacy greater than 40 lumens.
All new wiring routes to be agreed prior to installation, with no cables bedded in insulation unless agreed and upgraded accordingly.
Where light fittings, switches or power fittings are recessed within layer noted as to be sealed as vcl, incorporate sealed back boxes, or lighting shrouds to maintain continuity of vcl.
All works to the fixed electrical system including earthing and bonding to be carried out in accordance with the IEE Regulations by a competent registered person (Part P self certification scheme) with BS7671 certification to be passed to Building Control & the client on completion.

Fire & Smoke Detection
Ensure provision of system to include mains operated smoke and heat detectors as shown, to be linked and each to be mains operated with integral rechargeable battery back-up all to BSS839 and BSEN 14604.

External Drainage (foul & surface water)
Refer to drawings and details. New below ground pipework to be 100mm dia run at minimum 1.80 falls, in class C bed and surround, except where less than 600mm cover achieved, to receive reinforced concrete protection over.
Surface water outfalls as existing.

Health & Safety:
Under CDM 2015 NBA Ltd have considered risks and mitigated where possible. Following completion of Building Regulations drawings, NBA's role as a designer will cease with the role of principle designer resting with the client / contractor. Contractor, subcontractors, designers & client to refer to CDM 2015 to ascertain and fully understand their roles and responsibilities under the regulations.
<http://www.hse.gov.uk/pubns/priced1153.pdf>

Contractor to consider items below as part of Health and Safety risk assessment, together with any other items highlighted by contractor & engineer assessments, and to continually monitor, assess and update.

No works to commence on site until all potential services, including mains and private, whether live or redundant, have been determined, discovered and clearly marked on site. This includes drains and sewers and other potential underground obstructions.

Contractor to identify any services which serve adjacent properties and protect and maintain service.
Ground contamination; it is not believed that contamination exists on site. Operatives to carry out risk assessment based upon potential contaminants and take necessary precautions, including ppe when working on site.
ACMs; it is not believed that any ACM exist on site. Operatives to carry out risk assessment based upon potential locations and take necessary precautions, including demolition / refurbishment survey as required by HSE guidance. If potential ACMs are discovered, contractor to notify specialist for testing and appropriate removal.
Contractor to provide fenced working area. All vehicles should exit the site in a forward gear.
Take precautions to minimise disruption / deliveries etc at times of peak travel such as school times and peak times for any nearby business and when more vehicles / adults and children will be in the vicinity. Coordinate with adjacent construction sites also.

Access to be maintained at all times for emergency services, including stairs. Contractor to create and apply protective measures and processes to prevent accidental and unlawful access.
Prior to commencement of works, install fenced boundary to the rear pond to prevent accidental access. Such fencing should include suitable bracing, and stays to prevent accidental trafficking of vehicles into the pond also.
No materials should be disposed of in the pond.
Contractor to ensure that the boundary remains adequately and safely fenced without obstructing the highway or visibility.
When working beyond the physical site boundary, working methods and protection to be assessed and implemented in conjunction with neighbours, Highways and statutory authorities.

Contractor to provide suitable protection and working systems to avoid falls into open excavations etc. Provide method statements and refer to SE details.
Design & provide suitable temporary support during demolition, construction and excavations etc, including appropriate method statements for demolition etc. Refer to engineers details, specialist manufacturers and consult engineer further if necessary or in doubt.
Contractor to prepare suitable site management plan.
Manual handling to be considered, with particular reference to steel beams, roof lights, roof joists and rafters, etc.
Specialist manufacturers to provide method statements and details for installation.
Use of lime in mortars.
Use of air powered machines for shot firing into metal work.
Site to be kept clean and tidy, and secure at all times.
Road to be kept clean during the works.
No burning on site.

Appointed contractor / client will assume the role of Principal Contractor under CDM 2015, and as such will be required to plan, manage and coordinate the construction work in a safe manner. This will include the preparation and constant review of a construction phase plan and ongoing health and safety file, as well as coordinating H&S input from other designers and sub contractors / designers, and ensuring that they comply with their own responsibilities under the regulations.
Contractor to assess likely construction period and if necessary carry out notification to HSE prior to works commencing on site.

Future Maintenance
Contractor to provide Home Owners Manual, and arrange for on site explanation of installed systems by specialist designers. Manual to include details of materials and systems and required maintenance regimes and contact details.
Specialist to confirm details and regime for testing smoke, and heat alarms.
Cleaning of ground floor windows may be carried out from ground level by hand / water fed pole. It may not be possible to clean the roof windows with the same due to roof form, and distance to pond; it may therefore be necessary to utilise a mobile tower scaffold either internally or externally to gain access (internal would be preferable as it removes the risk of falling into the pond, so a centre pivot window is included to allow such).
Clearance of new ground floor and first floor gutters and hoppers can be undertaken safely by use of a step ladder, or mobile scaffold tower.
Refer to specialist manufacturer and engineer information also.
No exceptional risks are believed exist or remain upon completion.
HSE Guidance, Safe Use of Ladders and Step Ladders

B	20.11.23	as rev clouds / omit woodburner	nb	nb
A	26.06.23	as rev clouds	nb	nb

Issued for:

Rev.	Date	Details	Drawn	Checked
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BUILDING CONTROL	
Project/Client:	Project No:
Mulberry Farm	1743
Elmswell	Dwg No: Rev:
	121 B
	Scale:
	1:20 @A1
	North:
Drawing:	
ga section b	Drawn By: Date:
construction notes	nb 26.05.23
	Checked By: Date:
	nb 26.05.23

Nick BARBER
Architects

design@nickbarberarchitects.uk
www.nickbarberarchitects.uk
42 Kirby Rise / Barham / IPSWICH / Suffolk / IP6 OAX
01473 839 767 / 07932 033 360
Nick BARBER Architects Ltd / Registered in England 8867467

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Contractors must work only to figured dimensions which are to be checked on site
This site measures 900mm at stated sheet size