BR 1.0 GENERAL :

All work is to adhere to and be carried out in strict accordance with the following:

1. 2015 CDM Regulations: The contractor acting as Principal Contractor shall produce a construction phase plan, shall organise cooperation between contractors and coordinate their work. They shall also ensure; a) site inductions are provided, b) reasonable steps are taken to prevent unauthorised access, c) workers are consulted and engaged in securing their health and safety, and d) welfare facilities are provided. Refer to the regulations and guidance for further details. Use of the smartphone app CDM Wizard may also be useful.

2. Planning permission. The works shall be carried out in accordance with all planning approvals and conditions of the local authority.

3. Building regulations: The whole of the works shall comply with the building regulations. Work started prior to receiving full approval is undertaken at the client's own risk. Any works not conforming with the regulations will need to be corrected at the client's cost.

4. Party Wall etc Act 1996. Ensure that notices have been served where necessary and that the contents of any Party Wall Awards are complied with. Party wall notices might need to be served for the excavation next to the boundary wall depending upon the depth of excavation and ownership of the wall.

5. Manufacturer's recommendations and the relevant British Standard.

BR 2.0 EXTERNAL WORKS

Contractor to establish with client the extent of external works, clearance of existing paths, vegetation, features and the like.

Materials Generally: Remove from site as work proceeds

Materials To Become The Property Of The Employer: Contractor to agree with client

BR 3.0 FOUNDATIONS:

Depth: Subject to confirmation by the structural engineer and building control: 0.8m deep onto good firm natural ground to building inspector's satisfaction. Min 800mm wide for cavity walls, 600mm wide for single leaf walls unless stated otherwise on the drawings, positioned centrally under the wall.

Refer to soil testing results before excavating if available. If applicable; where soil contains clay / is shrinkable, then new foundations shall be constructed in accordance with NHBC Standards 4.2 Building Near Trees. Where trees are present then foundation depths will need to be increased below the zone of influence of the tree. Heave protection may be required where foundations exceed 1.5m or to ground beams.

For non reinforced foundations in non-aggressive soils the concrete should be Grade ST2 or GEN1 concrete to BS 8500-2. Refer to soil testing results for PH value of the soil.

Excavate a trial hole on site prior to work commencng to establish ground conditions and agree depth and width of foundation with BCO and structural engineer. .

BR 4.0 SITE PREPARATION AND RESISTANCE TO MOISTURE

1. The ground floor slab shall incorporate a 1200g DPM.

2. The DPM shall be lapped and linked to the DPC which shall be Hyload plastic or similar. All joints and laps in the DPM and DPC shall be taped and sealed. Min laps in accordance with manufacturer's instructions and no less than 150mm. DPCs shall be 150mm above finished ground levels.

3. Window and door openings shall incorporate insulated cavity closers with integral vertical DPM to prevent water ingress. Cavity tray with weepholes to be inserted above lintels where they are not protected by eaves overhang.

4. Radon: Not applicable

BR 5.0 GROUND FLOOR

Beam and block floor to suppliers design. Floor to be grouted when installed. Floor beams, infill blocks & coursing blocks to be laid on DPC. Beams to bear onto 7N blocks. Celotex laid in accordance with the manufacturer's recommendations with a minimum 65mm reinforced screed (D49 mesh or fibre) or as required to line through with existing floor screed. 20mm perimeter strip of insulation to screed.

Ventilated air space measuring at least 75mm from the ground covering to the underside of any wall plates and at least 150mm to the underside of the suspended floor (or insulation if provided). Two opposing external walls should have ventilation openings placed so that the ventilating air will have a free path between opposite sides and to all parts. The openings should be not less than either 1500 mm²/m run of external wall or 500 mm²/m² of floor area, whichever gives the greater area. A typical plastic Timloc air brick allows 6170mm² ventilation.

U value required - refer to SAP calcs.

BR 6.0 DRAINAGE

A . Foul drainage below ground:

1. Connect to the existing drainage system as shown on the drawings.

2. Where drains pass through the foundation a 50mm space shall be provided above the pipe to allow for differential settlement. The void to be packed with compressible sealant to prevent entry of gas. Mask opening both sides with rigid sheet material (fibre cement) to prevent entry of fill or vermin. (see detail) or

3. Short length of pipe bedded in wall, joints formed within 150mm of either wallface. Adjacent rocker pipes of max. length 600mm with flexible joints

4. Underground drainage shall be laid at a fall of 1 in 40mm (25mm per metre) or 1 in 80 (12.5mm per metre) where there is a WC at the head of the drain run.

5. Drains shall be bedded on 100mm pea gravel and surrounded with same to the crown of the pipe.

6. Flexible pipes under the driveway should have 0.9m cover or be protected by concrete bridging slabs or surrounded with concrete with movement joints at each pipe joint. Flexible pipes under garden areas should be protected by concrete paving slabs having at least 75mm granular cover between the top of the pipe and the underside of the slabs. Alternatively, surround in concrete with provision for movement at the pipe joints.

B. Surface Water drainage below ground

1. Proposed DP positions have been shown on the elevations. Provide new soakaway for the extension. Size and position of soakaway to be agreed with BCO following builders soakage test, 5m from buildings & 3.5m from boundaries where possible. Assume 0.8m deep base with pipe invert not exceeding 400mm at soakaway.

2. If the site is on a clay soil then a soakaway may not be suitable and a connection to the sewer may be necessary. Applications to be made to Anglian Water and the appropriate fee paid.

C. Roof rainwater drainage.

1. Gutters: 110mm Half round uPVC.
2. Downpipe: 63mm circular.
Locations as shown on the plans and elevations.

BR 7.0 INTERNAL DRAINAGE

1. Basins-32mm waste. 75mm deep trap

2. Showers-40mm waste-50mm deep trap. Ensure fall of 18mm per metre achieved.

3. Bath-40mm waste-50mm deep trap with ASV. Ensure fall of 18mm per metre is achieved.

4. WC's-110mm waste, 50mm trap. Ensure fall of 18mm per metre is achieved.

5. Use anti siphon valves where 32mm pipe exceeds 1.7m or 40mm pipe exceeds 3m, or increase waste pipe to 50mm.

6. Insulation should be provided to all soil pipes passing through dwellings. Either line the enclosure or wrap the pipe with 25mm unfaced mineral fibre. Use 18mm WBP plywood for the enclosure with an optional plasterboard finish.

7. All new SVP's to have rodding access at the base with trap door access in the enclosure.

BR 10.0 WALLS

1. External leaf 102.5mm brick
100mm cavity, filled with Crown Dri-Therm 32 Cavity Slab.
100mm Interlyte Ultra block (unless structural engineer has specified otherwise - check the structural drawings before ordering.
Use 7.3N blocks at ground floor as the property has three storeys.
12.5mm plasterboard on dabs. (U value 0.25).

Cavity to extend min 225mm below DPC.
Wall insulation to extend at least 150mm below FFL.

2. Wall Ties 750mm horizontal centres, 450mm vertical CTS. Stainless steel type 2 general purpose ties 225mm long. Ties at not more than 300mm vertical centres within 225mm from the sides of all openings with unbonded jambs. New walls bonded in using stainless steel face fixed wall starters or if stated on the drawings by toothing in where appropriate.

6. For external walls of houses mortar should generally be

a. Designation (iii) to BS 5628:part 3:2001
b. Strength class M4 to BS EN 998-2,
c. 1:1:5 or 6 cement:lime:sand
or, of equivalent or greater strength and durability to the above

7. Mortar below or within 150mm of ground level should be M12 (i), M6 (ii) or M4 (iii). M4 (iii) should only be used if there is low risk of saturation and it is a well drained site and that the mortar is correctly batched.

9. Internal finish. Plasterboard on dabs with continuous ribbon of adhesive around all openings, along the top and bottom of the wall and at internal and external corners. Skim finish or taped joints to clients preference. Angle beads to be used on all corners. Seal any penetrations with a flexible sealant.

10. Bricks within 150mm above or below ground level (Below DPC) should be F2 durability with a designation (i) or (ii) mortar mix.

BR 11.0 LATERAL RESTRAINT

1. Walls should be strapped to floors above ground level, at intervals not exceeding 2m with noggins inserted between the floor joists at strap positions. Where joists are parallel to the wall, straps shall extend over at least three joists which shall be packed to the wall. Ties are not required in the longitudinal direction where joists are fully built in to the wall with at least a 90mm bearing or where restraint hangers have been used at not more than 2m cts.

2. Wall plates should be secured down using straps at max 2m intervals extending at least 1m down the wall. These can be omitted if certain conditions exist though we would recommend that they are always installed where possible.

3. Gable walls shall be secured to the roof at ceiling level and along the verge using restraint straps placed no more than 2m apart and at the highest part of the ridge. Straps shall extend over three trusses and have noggins inserted at straps positions with the last truss packed out to the wall.

BR 12.0 LINTELS

1. For standard loadings to window and door openings in external cavity walls: IG L1 S 100 or Catnic CG90 for 100mm cavities. 150mm bearings. HD lintels shall be used where supporting roofs or floors. Lintels to be checked which are supporting the first floor trusses. TBC.

BR 12.0 ROOF

1. 1. Where roof trusses are used they shall be to the manufacturer's design and to be erected in accordance with BS5268. Preservative treatment not required unless a specific request for treatment against insect attack has been made. Where roof trusses are used they shall be to the manufacturer's design and to be erected in accordance with BS5268. Preservative treatment not required unless a specific request for treatment against insect attack has been made. Where roof trusses are used they shall be to the manufacturer's design and to be erected in accordance with BS5268. Preservative treatment not required unless a specific request for treatment against insect attack has been made.

2. Longitudinal and diagonal rafter bracing shall be installed to tightly abut external and party walls. Longitudinal bracing shall be installed at node points. Where joints / laps are necessary bracing shall be lapped over two trusses. Diagonal bracing shall be nailed to the wall plate. All bracing to be twice nailed to each truss member it crosses using two 3.35mm dia galvanised nails equal to bracing thickness plus 32mm.

3. Permavent Black breather membrane or similar draped between rafters 10-15mm to allow drainage of any water penetrating the tiles fixed in accordance with manufacturer's instructions or Agrement certificate with a minimum 150mm overlap. Underlay shall be fully supported at the eaves and dressed down into the gutter below the tiles. Underlay shall be taken over the cavity at gable ends and onto the external leaf. Alternatively, pull underlay tight across rafters and use counter battens in addition to the tiling battens. Underlay shall be taken over the ridge. Tiles or slates should overhang the centre of the gutter.

4. Fascia boards - uPVC. 150-200mm deep to suit.

6. Wherever breathable underlays are used a vapour barrier / VCL shall be incorporated at ceiling level behind the plasterboard. BS:5250 recommends that a VCL should to be a minimum 500 gauge polythene (plastic DPM) sheeting and all corners and laps should be minimum 75mm and taped with 'Tactape'. Plasterboard ceilings to be fitted before walls are plasterboard lined. Ensure that all gaps between the ceiling and masonry wall are filled with either plaster, adhesive or flexible sealant.

9. For flat ceilings use 400mm mineral wool. Roof insulation to be continuous with wall insulation. Flat section Crown loft roll-100mm between trusses/joists, 300mm over trusses/joists.

10. Construct access hatch to the main roof void insulated and draught proofed.

12. 5mm ridge ventilation, or high level ventilation using tile vents at 2m cts in the second course to be provided in conjunction with the breathable underlay.

13. Verges shall extend min 50mm beyond fascias.

14. Roof tiles shall be laid in accordance with the manufacturer's instructions and BS5534:2014. Tile battens shall be treated, factory graded and stamped to BS5534. 25x50mm for rafters at 600mm cts, 38x50mm if rafters at 450mm cts (or 600mm cts for double lap clay or concrete tiles). The maximum batten spacing should be appropriate to the tile type and finish as recommended by the manufacturer. Do not count tile courses from the drawings.

BR 15.0 STUD WALLS

1. For rooms to 2.4m high studs may be constructed using 63x38mm CLS at 600mm cts. 89x38mm CLS or 50x100mm will provide a more robust stud wall.

2. Walls: Internal walls between a bedroom or a room containing a WC and other rooms shall be constructed as stated below except where
i. the internal wall contains a door,
ii. the internal wall separates an en-suite from the associated bedroom.

3. Min 63mm studs, 10kg/m² plasterboard with 50mm Rockwool Flexi or similar approved in the cavity; or use 15mm British Gypsum SoundBloc both sides with no insulation in the cavity.

4. Partitions in other locations can be finished with standard 12.5mm wall board. 12.5mm: Intermediate and perimeter noggins are required where studs at 600mm cts. 15mm: Intermediate and perimeter noggins are not required where studs are at 600mm cts.

BR 16.0 WINDOWS, DOORS, ROOFLIGHTS

1. Where windows, roof windows, rooflights or doors are provided they shall achieve the following standards.
a. For windows, U value 1.4 W/m²K
b. For doors with more than 50% of internal face glazed U = 1.4 W/m²K
c. Other doors U = 1.4W/m²K

2. Window Frames to be set 30mm into the cavity as indicated on drawings

5. All glazing to doors within 1500mm of floor level shall be safety glass including a 300mm margin either side of the door to any glazed panels.

6. All windows with glazing within 800mm of floor level shall be safety glass.

BR 17.0 VENTILATION

1. To new dwellings provide the following levels of background ventilation via trickle ventilators. The floor area is 128 sq.m. 86,000sq.mm of ventilation is required = 18 x 5000sq.mm trickle vents.
a. Habitable rooms: min 5000mm² equivalent area
b. Kitchen, utility, bathroom (with or without WC) 2500mm2 equivalent area

2. Purge ventilation
a. For a hinged or pivot window that opens 30 degrees or more or for sliding windows the opening area should be at least 1/20th of the floor area.
b. For a hinged or pivot window that opens between 15 to 30 degrees or more the opening area should be at least 1/10th of the floor area.
c. If the window opens less than 15 degrees it is not suitable for purge ventilation.

BR 18.0 ELECTRICAL

1. In new builds switches and socket outlets to be provided between 450mm and 1200mm above finished floor level.

2. Domestic electrical work to be certified where necessary under Part P and to BS7671.

4. Extract ventilation. Include all supplies for and install the following:
a. Kitchen: Extract ventilation (intermittent) to be provided to the kitchen at a rate of 30l/s (108m3/hr) via a cooker hood 650-750 above cooker or 60l/s (216m3/hr) elsewhere. Discharge through wall / vent tile.
b. Utility room: 30l/s. (108m3/hr) Discharge through wall / vent tile.
c. Bathroom: 15l/s (54m3/hr)(intermittent) light operated. 15min over run if there is no opening window. No over run required where there is an opening window. 10mm gaps under doors to facilitate through ventilation. Discharge through wall / vent tile.
d. WC: 6 l/s (22m3/hr) (intermittent) light operated. 15min over run if there is no opening window. No over run required where there is an opening window. 10mm gaps under doors to facilitate through ventilation. Discharge through wall / vent tile.

A commissioning certificate needs to be provided by a competent person for the mechanical extractor fans on the completion of the works.

5. 13A Sockets. Agree number and position with client.

6. Kitchen appliances to be wired in or connected to unswitched sockets with isolators located above the worktops. Kitchen to have separate cooker point and supply for hob.

7. Mains powered smoke (SD) or heat detectors (HD) to be fixed to the landing and entrance hall ceilings. Do not fit within 300mm of light fittings or walls and fix in accordance with the manufacturer's instructions. Smoke or heat detectors shall be on their own circuit and interlinked and have battery backup.

BR 19.0 FIXED INTERNAL LIGHTING

1. All light fittings to be low energy fittings.

2. Low energy fittings should have lamps with a luminous efficacy greater than 45 lamp lumens per circuit watt and a total output greater than 400 lamp lumens.

3. Light fittings may either be dedicated fittings which will have separate control gear for and will take only low energy lamps,or standard fittings supplied with low energy lamps with integrated control gear (e.g. bayonet or edison screw base compact fluorescent lamps)

4. Light fittings with GLS tungsten filament lamps or tungsten halogen lamps would not meet the standard.

BR 20.0 FIXED EXTERNAL LIGHTING

1. Provide light fittings with the following characteristics Either
a. lamp capacity not greater than 100 lamp watts per light fitting and
b. all lamps automatically controlled so as to switch off after the area lit by the fitting becomes unoccupied and
c. all lamps automatically controlled so as to switch off when daylight is sufficient.

or

d. lamp efficacy greater than 45 lumens per circuit watt and
e. all lamps automatically controlled so as to switch off when daylight is sufficient and
f. light fittings controllable manually by occupants.

BR 21.0 HEAT PRODUCING APPLIANCES

1. New A rated condensing gas boiler to be fitted. Model to be confirmed through the SAP calculations.

BR 22.0 WATER

1. New water main to the property from Anglian Water supply in accordance with their requirements. No cold water storage. Hot water storage in pressurised HW cylinder. Water supply pipes shall be insulated under suspended ground floors and in the duct within 750mm of ground level.

2. Water consumption shall not exceed 110 litres / day. Please refer to calculations below. In addition, ensure that the water fittings comly with table 2.1 to the right of this page.

3. Fit thermostatic mixer to the bath to ensure that water supplied does not exceed 48 degrees C.

BR 23.0 SECURITY

Doors and windows shall meet the requirements of part Q.

Doors:

Ground floor external doors should be of a design that meets PAS 24:2012 or Appendix B of Part Q.

Letter plates should have a maximum aperture of 260x40mm and have a flap or other feature to restrict access (against the theft of keys). The door and hardware Fedeation specification TS 008:2012 is acceptable.

The main door should have a door viewer, and door chain or door limiter.

Windows:

Ground floor windows should be of a design that meets PAS 24:2012 and fixed in accordance with the manufacturer's details.

BR 24.0 INTERNET

Physical infrastructure for high speed electronic communications network.

The building should have provision so that in the future, copper or fibre-optic cables or wireless devices capable of delivering broadband speeds greater than 30 Mbps can be installed.

The network termination point (NTP) will be installed by BT or other provider as shown on the ground floor plan. Any further internal networking to be agreed with the client if required.

Table 2.1 **Maximum fittings consumption**

Water fitting	Maximum consumption
WC	6/4 litres dual flush or 4.5 litres single flush
Shower	10 l/min
Bath	185 litres
Basin taps	6 l/min
Sink taps	8 l/min
Dishwasher	1.25 l/place setting
Washing machine	8.17 l/kilogram

Project 12 Vicarage Close, Cowbit, PE12 6XW
Ref 1923
Date 12.11.2019

Installation type	Unit of measure		Capacity flow rates	Use factor	Fixed use (litres per person per day	Litres per person per day
WC (single flush)	Flush volume (litres)			4.42	0	0.00
WC (dual flush)	Full flush volume (litres)	6		1.46	0	8.76
	Part flush volume (litres)	4		2.96	0	11.84
WCs (multiple fittings)	Average effective flushing volume (litres)			4.42	0	0.00
Taps (excluding kitchen / utility room taps)	Flow rate (litres per minute)	5		1.58	1.58	9.48
Bath (where shower also present)	Capacity to overflow (litres)	174		0.11	0	19.14
Shower (where bath also present)	Flow rate (litres per minute)	7		4.37	0	30.59
Bath only	Capacity to overflow (litres)			0.5	0	0.00
Shower only	Flow rate (litres per minute)			5.6	0	0.00
Kitchen / utility room taps	Flow rate (litres per minute)	5		0.44	10.36	12.56
Washing machine	Litres / kg dry load	8.17		2.1	0	17.16
Dishwasher	Litres / place setting	1.25		3.6	0	4.50
Waste disposal unit	Litres / use			3.08	0	0.00
Water softener	Litres / person / day			1	0	0.00
	5 Total calculated use (litres/person/day =					114.03
	6	Contribution from greywater (litres/person/day) from table 4.6				0.00
	7	Contribution from rainwater harvesting (litres/person/day) from table 5.5				0.00
	8	Normalisation factor				0.91
	9	Total water consumption (5-6-7)x8			=	103.76
	10	External water use				5.00
	11	**Total water consumption (Building regulations 17K) = 9 + 10 (litres/person/day)**				**108.76**

ARC Survey & Design Consultants Ltd
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PLANNING CONDITIONS:

1. The development must be begun not later than the expiration of three years beginning with the date of this permission.

2. The development hereby permitted shall be carried out in accordance with the following approved plans:
E001, E002
Design & Access Statement Ref: 1924
Flood Risk Assessment (Ellingham Consulting Ltd ECL0104/ ARC Survey and Design Consultants Ltd - September 2019)
P101, P102, P103, P104, P105
Application form

3. Details of the design and positions of all external boxes for gas and electricity supplies and of any gas flues and soil vent pipes shall be submitted to and approved in writing by the Local Planning Authority prior to their installation and there shall be no variation from the details so approved.

4. Before the commencement of the development hereby granted beyond oversite, full details of the proposed means of foul and surface water disposal to separate systems shall be submitted to and approved in writing by the Local Planning Authority and the details so approved shall be implemented in full before there are any flows into the receiving systems.

5. Finished floor levels shall be set 300mm above average ground levels, with a further 300mm of flood resilient construction in accordance with Flood Risk Assessment (Ellingham Consulting Ltd ECL0104/ ARC Survey and Design Consultants Ltd - September 2019)

6. The water consumption of the dwelling hereby permitted should not exceed the requirement of 110 litres per person per day (as set out as the optional requirement in Part G of the Building Regulations 2010 and the South East Lincolnshire Local Plan, 2019). The person carrying out the work must inform the Building Control Body that this duty applies. A notice confirming the requirement for the water consumption has been met shall be submitted to the Building Control Body and Local Planning Authority, no later than five days after the completion of the dwelling.

No.	Description	Date
A	Revision 2	03.02.2020
B	Revision 3	06.02.2020

12 Vicarage Close, Cowbit, PE12 6XW

New Dwelling

Notes

Project number	1923
Date	11.12.19
Drawn by	Author
Paper size	A1

BR05

Scale

06/02/2020 12:33:51