

# FOR BUILDING REGULATION PURPOSES ONLY

## NOT FOR CONSTRUCTION

### GENERAL NOTES

These notes are for Building Regulation purposes only and should not be regarded as detailed constructional specifications.

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The builder is to verify any discrepancies with the appropriate authority and to check all dimensions prior to commencement of the works. The following details and materials may vary to suit client requirements.

Notes to be read in conjunction with Structural Engineers calculation sheets, drawings and details.

All Electrical work to be carried out by ECA or NICEIC qualified persons. On completion of the work test certificates to be issued to the employer at completion.

All plumbing to be carried out by GAS SAFE registered persons. On completion of the work test certificates to be issued to the employer at completion.

All timber to be preservative treated to comply with British Wood Preserving and Damp-proofing Association Commodity Specification C8.

### BRITISH STANDARDS

Where applicable all materials are to comply with the relevant EN & British Standards and the work to be carried out in strict accordance with the relevant Codes of Practice issued by the British Standards Institute.

Ensure all materials are fitted/installed in strict accordance with manufacturer's details and recommendations & that all materials are compatible.

### THE BUILDING REGULATIONS

The work is to be carried out in strict accordance with, and to the approval of the Local Authority, administered by the Building Control Officer. All work is to comply with current Building Regulations.

### STATUTORY SERVICES - GENERAL

All statutory authorities are to be consulted regarding alterations to their services. Adjustments might be required to the existing incoming services, in particular the electricity, gas and water supplies.

### CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015

The Principal Contractor is to ensure that they fulfil their obligations under the Construction (Design and Management) Regulations 2015. This will include ensuring that all risks highlighted by the Principal Designer within the Pre-contract stage are managed appropriately and in accordance with their Construction Phase Plan. The Construction Phase Plan shall be issued to the Contract Administrator prior to the works commencing for their review.

### STRUCTURAL

For the exact sizing and positioning of rafters, trusses, floor joists, details relating to the foundations and reinforced concrete floor slabs, and positions of any movement joints, refer to structural engineer's drawings, details and specifications.

All structural steelwork, where supporting floor structure or means of escape from the building, is to receive minimum 30 minutes fire protection.

### PLANNING CONDITIONS

Contractor to ensure that all Planning Conditions have been satisfied prior to the commencement of works.

### FOUNDATIONS

Sites are to be prepared by terminating all existing services (electricity, water, telephone and gas), clearing all rubbish, undergrowth and the like, grubbing up old tree roots and stripping vegetable soil from the area of the new building works to the levels required and excavating foundations to the depths advised by the Consulting Engineer's and to the satisfaction of the inspecting Building Control Officer.

Foundations to be generally trench fill foundations and to be as per Structural Engineer's specification & design. Depth of foundations to be as specified by engineer, adjusted as necessary to suit site conditions and to give adequate bearing and freedom from adverse frost effects and moisture movement.

Final depth and width of foundations to be determined by the Consultant Structural Engineer and agreed with Building Control following site inspection. The thickness of the foundations is to be not less than projections of foundation from wall faces.

Foundations are to be at or below invert levels of adjacent drains that are within 1m (or in accordance with diagram A2 of Part H1 of the 1990 approved documents)

Concrete to be composed of cement to BS 12-1989 and fine and coarse aggregate to BS 882-1983 (unless chemically aggressive soil).

Concrete grade to be to Structural Engineer's design and comply with BS 5238: Parts 1 and 2.

### BELOW GROUND DRAINAGE

The extended dwelling will connect to the existing mains foul drainage system, in accordance with the details provided on the accompanying drainage details and layout plan, with all works to the satisfaction of the inspecting BCO.

Foul water drains: POLYETHYLENE (PE) pipes with flexible joints - on bed and surround to suit drain location and in accordance with diagram 10 and table 10 of Part H1 of the 2000 approved documents (refer also to diagram 11/12 where minimal cover).

Surface water drains: on bed and surround to suit drain location and in accordance with diagram 10 and table 10 of Part H1 of the 2000 approved documents (refer also to diagram 11/12 where minimal cover).

All drainage to comply with Part H1 and H3 of the 2000 approved documents and to comply with BS 8301-1985.

In accordance with paragraph 1.57 of Approved Document H, a notice should be fixed within the building describing the necessary maintenance.

### MANHOLES/INSPECTION CHAMBERS

Polypropylene inspection/access chambers with cast iron covers and frames to BS 497 (tees of chamber covers/frames in accordance with table 8 of BS 8301-1985). Heavy duty covers to be provided to driveway areas.

Provide rodding eyes where indicated and to allow easy rodding access to all drainage runs.

### SOAKAWAY

Surface water to drain via soakaway (located more than 5m from any building) with granular sub-base min. depth of 100mm based on soakage rate of 2.0-4.0mm - infiltration tests required on site in order to confirm soakage rate/design.

### PROTECTION OF DRAINS

Where drains run under building provide a minimum of 100mm granular or other approved flexible filling around the pipe.

Where drains are within "pedestrian only" areas and have less than 0.6m cover or within parking areas with less than 0.3m cover from road formation level they should be surrounded with 150mm concrete. Compressible flexible joints to be provided through the full cross section of concrete surround at the face of each pipe coupling or socket. Drains to be at a greater depth to have minimum 150mm granular bed and surround.

Backfilling under buildings to be in accordance with drain manufacturer's instructions

Provide precast concrete lintels above drains where passing through walls to give 50mm space around pipes, mask both sides with rigid sheet material to prevent entry of fill or vermin or provide short length of pipe bedded in wall with joints formed within 150mm of either wall face.

### ABOVE GROUND FOUL DRAINAGE

B.L.G.s to serve Kitchen and Utility Room to each connect to existing foul water system by means of 100mm dia. pipes.

Where waste run from wash hand basins exceed 4 metres, provide a 50mm air admittance valve between the two basins and ensure All to be in accordance with Approved Document H.

Refer to INTERNAL PLUMBING notes for further details relating to pipe sizes and connections.

### SUB-STRUCTURE WALLS

External cavity sub-structure walls to be built up from foundations up to levels as noted below for the external leaf, and DPC level for the internal leaf, in 1No. leaf of 100mm dense concrete blocks in 1:4 cement mortar. Cavity wall external leaf generally 103mm thick facing stock brickwork from below ground level up to DPC level. Cavity to be filled with lean mix concrete (1:10 mix) to BS 5328 to minimum 25mm below lowest DPC and sloped towards outer skin.

Internal loadbearing partitions sub-structure walls to be built from foundations up to DPC level in 100mm dense concrete blockwork laid in 1:4 cement mortar.

### DAMP PROOF COURSES AND MEMBRANES

Horizontal DPC to be placed minimum 150mm above finished ground level and to be ridged polythene to BS 6515. Where there is a difference in adjoining floor levels the DPC should be linked so that all areas are protected.

DPC to be 10mm wider than width of wall they are bedded on and all joints to be taped a minimum 150mm.

DPC to be fully interconnected with DPM within floor construction and ensure new DPC/DPMs are fully interconnected with existing DPC/DPMs.

Contractor is to ensure that the chosen DPC and DPM are compatible for use with each other.

Provide two coats of RIV LAC as additional damp protection to outer leaf of masonry below finished ground level.

Vertical DPC's to be provided to all doors and windows achieved where possible by the use of an insulated cavity closer.

### GROUND FLOOR CONSTRUCTION

- U-value = 0.14 W/m<sup>2</sup>K
- 25mm allowance for floor finish to Client's selection;
  - 75mm sand/cement screed, laid over underfloor heating pipes fixed with proprietary clips over floor DPM and floor insulation. Screed to include reinforcing mesh (see Structural Engineer's details);
  - 500 gauge polythene DPM to lap with DPC;
  - 30mm Kingspan Kooltherm K103 insulation boards to 75mm height around perimeter of screed;
  - 125mm Kingspan Kooltherm K103 insulation boards with tightly butted and taped joints;
  - 1200 gauge polythene DPM to be taped with DPC. Contractor to ensure compatibility and correct taping of the DPM with the DPC;
  - 150mm beam and block floor system with beams sized and spaced in accordance with Structural Engineer's details;
  - Ventilated and drained floor void - depth as specified by Structural Engineer.

HATCHING DENOTES NEW FLOOR CONSTRUCTION

In accordance with Approved Document C of the Building Regulations, the sub-floor void is required to be ventilated. The openings for ventilation of the floor void will not be less than either 1500mm<sup>2</sup> run of external wall or 5000mm<sup>2</sup> of floor area, whichever gives the greater opening area. Ventilation openings will incorporate suitable grilles which prevent the entry of vermin. It must be ensured that the new floor does not compromise the existing sub-floor ventilation or drainage arrangements.

The sub floor void is also to be drained to surface water system, by suitably spaced weepholes within the external walls. Sub floor base to comprise 1200 gauge polythene DPM over blinding concrete (to Structural Engineer's specification).

### CAVITY WALL CONSTRUCTION

- U-value = 0.20 W/m<sup>2</sup>K
- 100mm stock facing brickwork, or blockwork and render to outer leaf, with mortar designation as specified by Structural Engineer;
  - 125mm overall cavity width;
  - Cavity width to receive 125mm Knauf Earthwool DnTherm Ultimate 32 cavity insulation batts;
  - 100mm blockwork inner leaf, with strength and mortar designation as specified by Structural Engineer;
  - 15mm wet plaster finish to the inner leaf blockwork;
  - Insulation to be installed and fixed in accordance with manufacturers instructions and recommendations.

Note the requirement to provide dry-lining insulation board at reveals to prevent thermal bridging by steel beams and posts. Refer to drawings for specific locations of this, and ensure all insulation is installed in strict accordance with manufacturers instructions and recommendations.

Where openings occur in external walls install proprietary cavity trays with weepholes in perpends at 450mm centres. Tray to project minimum 150mm beyond end of lintel and filled with stop ends.

Install cavity trays (stepped if required) with weepholes, at all abutments between single storey and two storey elements

Install Vertical Twist Type ties spaced not more than 750mm horizontally and 450mm vertically. Provide ties not more than 300mm vertically within 225mm from the sides of all openings with unbonded joints.

New walls to be tied to existing walls with Fixtur, or equivalent, stainless steel wall profiles and vertical DPC's.

Movement joints to be provided as specified by structural engineer.

Provide Thermabate cavity closures to all openings installed to manufacturers recommendations.

### FLOOR CONSTRUCTION - FIRST FLOOR

- Client-supplied floor finish;
- 22mm WBP T&G ply decking to be glued and mechanically fixed with appropriate screws using a torque screwdriver to prevent overtightening of the screws;
- Where a tiled floor is to be installed, ensure a suitable non-insulated tiling substrate board (such as those by Schluter, or similar approved) is applied over the system prior to tiling. Fix tiling substrate boards in accordance with manufacturer's instructions and recommendations;
- Timber floor joists with size and spacing in accordance with structural engineer's design, details and specification. Herringbone strutting to be provided at appropriate spacings as specified by the structural engineer;
- 100mm thick Rockwool Flexi insulation quilt to be laid between joists to provide sound separation, being suspended on a proprietary netting system to maintain a minimum 25mm clear cavity between the underside of the insulation, and the top of the plasterboard;
- 15mm Gyproc Wallboard to be applied to the underside of the floor joists with taped and skimmed joints (15mm Gyproc Finesse plasterboard to underside of steel beams). Boards to be mechanically-fixed using a torque screwdriver to prevent overtightening of the screws;
- Apply a 2mm skim coat plaster finish ready to receive decorations to Client's selection

HATCHING DENOTES NEW FLOOR CONSTRUCTION

### TIMBER FRAME WALL CONSTRUCTION

- U-value = 0.16 W/m<sup>2</sup>K;
- State tie hanging;
  - 25 x 38mm treated SW timber vertical battens;
  - 25 x 38mm treated SW timber tiling battens;
  - Layer of breathable sarking membrane such as Kingspan nilevit;
  - 11mm OSB sheets mechanically fixed to;
  - 150 x 50mm timber studwork in accordance with structural engineer's drawings and details;
  - 120mm Kingspan Kooltherm K112 insulation to be friction fitted between timber studs;
  - Mechanically fix 32.5mm Kooltherm K118 insulation boards with tightly-butted and taped joints, sealed at their abutments with floors, walls and ceilings to create a continuous VCL, mechanically fixed to timber studs;
  - 2mm skim coat plaster finish applied in preparation for decorations;
  - Insulation to be installed and fixed in accordance with manufacturers instructions and recommendations.

### MOVEMENT/EXPANSION JOINTS

Provide movement/expansion joints in accordance with BRE Digest Nos. 157-1973, 145-1974 and 178-1975, brick/block manufacturer's recommendations and Structural Engineer's design (see McCauley Simmonds drawings).

LINTELS - See Structural Engineer's calculations and drawings

Door and window openings to be supported on lintels complying with Structural Engineer's details. Lintel type to suit detailed wall construction and to be provided with proprietary cavity trays where required over and stop end cloaks.

Openings in internal loadbearing blockwork walls to have galvanised steel lintels complying with manufacturer's span/load tables and Structural Engineer's details.

Minimum end bearings to be 150mm over uncult blocks.

### FLASHINGS

Provide lead trays & flashings to code as recommended by the Lead Sheet Association.

Install Code 4 or Code 5 lead flashings (or code as required by Lead Sheet Association) to all abutments. Include lead flashings around all window openings.

### FLAT ROOF (REAR EXTENSION AND DORMERS)

- U-value = 0.18 W/m<sup>2</sup>K
- Flat roof to receive single ply roof finish detailed in accordance with manufacturers instructions and recommendations
  - Plywood deck laid to a min. 1:40 fall
  - 100mm Knauf Onituff insulation board between
  - 147x47mm C16 timber ceiling joists at 400mm ctrs. with min. 50mm ventilated void over insulation
  - Mechanically fix 65mm Knauf PIR Laminata dry-lining insulation board to the underside of the timber joists, with tightly-butted and taped joints to form a VCL. Ensure the dry-lining boards are fastened using a torque screwdriver to ensure screws are not overtightened.
  - Apply a 2mm Gypsum Multifinish plaster skim ready to receive decorations.
  - Provide proprietary ventilators at the eaves, roof and wall abutments, such as those by Nicholson Airtrak (or similar approved) to provide cross-flow ventilation of 25,000mm<sup>2</sup>/sq.m

### STRUCTURAL STEELWORK - See Structural Engineer's calculations and drawings

Provide steel beams in accordance with consultant Engineer's design details and drawings.

Steel beams to bear onto precast concrete padstones or other support as per Consultant Engineer's design details.

For the exact sizing and positioning of rafters, trusses, floor joists, details relating to the foundations and precast concrete floor beams and slabs, and positions of any movement joints, refer to structural engineers drawings, details and specifications.

All structural steelwork, where supporting floor structure or means of escape from the building, is to receive minimum 30 minutes fire protection.

### BATHROOMS AND SHOWER ROOMS

Part G3: Baths to be provided with an inline blending valve limiting the temperature to 48 degrees maximum.

Bathroom Ventilation: See notes relating to *Ventilation of Habitable Rooms*

Wall finishes: Moisture-resistant plasterboard to the walls, as a substrate for the tiling. See first floor specification for details on floor tiling.

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 will be satisfied that Part P has been complied with. This may require an appropriate BS7671 electrical installation certificate to be issued for the work by a competent person to do so. NB. NICEIC or ECA registered.

ALL FITTINGS WITHIN SANITARY ACCOMMODATION TO BE IP RATED.

### VENTILATION OF HABITABLE ROOMS

For rapid ventilation purposes all habitable rooms are to be provided with opening windows and/or external doors equal to not less than 1/20th of the floor area of the room with part of the ventilation opening to be a minimum of 1750mm above floor level.

Where above requirement cannot be met by operable windows or doors a hit and miss extract ventilator will be commissioned by testing and adjusting as necessary to secure that the objective referred to in sub-paragraph (1) - there shall be adequate means of ventilation provided for people in the building - is met.

For the purposes of achieving ventilation sufficient to comply with Approved Document F, it is proposed to use System 1 - Background Ventilators and Intermittent Extract Fans. Extract ventilators to achieve the following extract rates:

Bathrooms - 15 litres per second  
WCs - 8 litres per second  
Utility Rooms - 30 litres per second.  
Kitchens - 60 litres per second.

Supply air to be provided to each of the new/extended habitable rooms by means of trickle ventilators to all new and replacement windows and doors, at a rate of 5000mm<sup>2</sup>.

All internal doors to be undercut by 10mm above FFL to provide a minimum 7600mm<sup>2</sup> passage for ventilation. Final position of extract and input valves to be determined by specialist subcontractor.

### COMMISSIONING OF SYSTEMS

In accordance with paragraph F1(2), fixed systems for mechanical ventilation and associated controls must be commissioned by testing and adjusting as necessary to secure that the objective referred to in sub-paragraph (1) - there shall be adequate means of ventilation provided for people in the building - is met.

In accordance with 19C(2), the person(s) carrying out the work shall no later than five days after the work has completed give sufficient information to the owner about the building's ventilation system and its maintenance requirements so that the ventilation system can be operated in such a manner as to provide adequate means of ventilation.

Regulation 20(A)(2) states that the person(s) carrying out the work shall, for the purpose of ensuring compliance with paragraph F1(1) of Schedule 1: a. Ensure that the testing of the mechanical ventilation air flow rate is carried out in accordance with a procedure approved by the Secretary of State; and b. Give notice of the results of the testing to the local authority.

These results and data upon which they are based must be recorded in a manner as approved by the Secretary of State, and be given to the local authority not later than five days after the final test has been completed.

The persons undertaking the works should provide the building owner with sufficient information for the operation and maintenance requirements of the mechanical ventilation systems installed.

In accordance with Approved Document F, all new fans should have a sound rating of 35dB or lower. Where the fans serve sanitary accommodation, these should be low voltage.

### WALLS (INTERNAL)

Internal timber stud partition walls to comprise 100mm thick timber studs at 400mm ctrs (or as specified by Structural Engineer), faced on both sides with 12.5mm Gyproc Duplex plasterboard, to receive a skim plaster finish ready to receive decorations. Rockwool Flexi insulation quilt to be placed between timber studs for acoustic separation. Where noted, timber walls to be faced with ply on one side to act as cross bracing - see Structural Engineer's design, details and specification.

Internal blockwork walls to be constructed from 215mm or 100mm blockwork, to strength and mortar designation as specified by Structural Engineers, with 15mm Gypsum plaster prepared to receive decorations.

Within sanitary accommodation, moisture resistant plasterboard to be applied to walls and ceiling, with WEED board applied to floors where necessary.

### ROOFLIGHT

Proprietary plateau roof lantern and rooflights to client specification. Glazing to have centre-pane U-value of 1.6W/m<sup>2</sup>K.

### WINDOWS AND DOORS

All new windows and doors to be in citall site metal finish, colour TBC. Glazing to have centre-pane U-value of 1.6W/m<sup>2</sup>K. All windows to have toughened glass in accordance with Building Regulations Approved Document K.

Where new window has a sill level less than 800mm above FFL, guarding to be provided and glazing to be toughened where necessary in accordance with Approved Document K. Glazing and frames to be able to withstand a lateral force of 0.74kNm, in accordance with BS 6399: Part 1: 1996.

Frames to overlap cavity by 30mm. Frame to be sealed internally with mastic sealant.

External doors and windows to have draught strips and perimeter seals in accordance with Building Regulation L1 Diagram 4(b).

All inner rooms should have escape windows that have an unobstructed openable area that is at least 0.33m<sup>2</sup> and at least 450mm high and 450mm wide. The bottom of the openable area should not be more than 1100mm above finished floor level to allow emergency egress in accordance with Building Regulations Part B1.

Where window styles are too small for emergency egress a protected escape route should be provided or window to be adapted. Walls to have a minimum 30 minutes fire resistance and doors to habitable rooms to have minimum fire resistance of 20 minutes and be fitted with rising butt hinges or 'Peto's' style or similar closer.

### RAINWATER GOODS

Gutters and down pipes to be in black uPVC, with size of gutters and number of downpipes to comply with Building Regulations H3 Tables 1 and 2 and as indicated. Provide access points to base of all down pipes, with suitable access for rodding.

### COLD WATER SUPPLY

In accordance with Approved Document G1, there must be a suitable installation for the provision of:

- wholesome water to any place where drinking water is drawn off;
- wholesome water or softened wholesome water to any washbasin or bidet provided in or adjacent to a room containing a sanitary convenience;
- wholesome water or softened wholesome water to any washbasin, bidet, fixed bath or shower in a bathroom; and
- wholesome water to any sink provided in any area where food is prepared.

There must also be a suitable installation for the provision of water of suitable quality to any sanitary convenience fitted with a flushing device.

### SANITARY CONVENIENCES AND WASHING FACILITIES

G1. (1) Adequate sanitary conveniences shall be provided in rooms provided for that purpose, or in bathrooms. Any such room or bathroom shall be separated from places where food is prepared.

(2) Adequate washbasins shall be provided in:  
a) rooms containing water closets; or  
b) rooms or spaces adjacent to rooms containing water closets.

Any such room or space shall be separated from places where food is prepared.

(3) There shall be a suitable installation for the provision of hot and cold water to washbasins provided in accordance with paragraph (2)

(4) Sanitary conveniences and washbasins to which this paragraph applies shall be designed and installed so as to allow effective cleaning.

### INTERNAL PLUMBING

32mm wastes to basins.  
40mm wastes to baths, sinks, showers, washing machines. 75mm deep seal traps to wastes on soil and vent pipes (50mm to W/C pan).

Provide SVP's or stub stacks where indicated on the drawings and connect to adjacent foul manholes as shown.

Provide air admittance valves to stub stacks at end of drain runs and install in accordance with manufacturer's instructions.

Branch waste sizes as follows:

WC - minimum 110mm diameter, maximum 6m run with minimum 9mm/m fall.

Basins - minimum 32mm diameter for maximum 1.7m run. Minimum 40mm diameter for maximum 3m run.

Sinks - minimum 40mm diameter for maximum 3m run. Minimum 50mm diameter for maximum 4m runs. Fall of branch wastes for sinks to be between 18-30mm per metre.

Fall of branch wastes for washbasins to be as indicated in diagram 3(b) of the approved documents. Part H1 latest edition.

Opposing wastes into soil vent pipe/stub stack (wastes up to 65mm diameter), 110mm offset to be provided.

Opposing wastes in soil vent pipe/stub stack (wc waste opposite wastes up to 65mm diameter), 200mm offset achieved by an angled junction or 50mm diameter parallel junction.

Lowest connection to soil vent pipe/stub stack to be 450mm above the drain invert.

Bends in branch pipes should have large radii. Pipes of 65mm or less should have centre line radii of minimum 75mm.

Junctions on branch pipes should have sweep of minimum 25mm or a radius of 45°.

Connection of wc branch pipes to soil vent pipes/stub stacks to have sweeps of minimum 50mm or minimum radius of 45°.

Provide rodding access to all lengths of discharge pipes/wastes that cannot be reached by the removal of traps.

Provide 100mm diameter soil vent pipes taken up through the roof space to roof terminal outlet and to finish at least 900mm above any opening into the building. The terminal outlet used should not restrict the flow of air.

Maximum length of unvented drain from stub stack to main vented drain to be 12m. All internal plumbing is to comply with BS 5572-1978.

Service pipes and cappings are to be sealed at floors, walls and ceilings to prevent air infiltration as Building Regulation L1.25(e) and Diagram 4(d)

### HEATING AND HOT WATER SYSTEMS

Heating system to be powered by a gas fired system boiler to be located within the Utility Room, to be designed by the Mechanical Services Engineer, and to be installed and commissioned by OFTEC-registered specialist persons. Boiler to serve an unvented pressurised hot water cylinder to be located in the first floor storage cupboard. Heating Sub-Contractor to submit to Building Control specification for heating and hot water system to meet clients requirements, to be NICEIC and ECA approved, and to comply with the requirements of the following parts of the Building Regulations:

L1 Space heating system controls  
L1 Hot water storage system controls  
L1 Insulation of vessels, pipes and ducts  
J1/23 Heat Producing Appliances  
G3 Hot Water Storage and distribution

G3 - Each bath is to be provided with an inline blending valve to limit the temperature of the water to 48 degrees maximum.

G3 - The water within the hot water distribution pipework must be limited to a maximum temperature of 60 degrees Celsius, in accordance with paragraph 3.64 of Approved Document G3.

G2 - A notice confirming the potential wholesome water consumption per person per day using "The Water Efficiency Calculator for New Dwellings" to be provided within five days of the completion of the works.

PLEASE REFER TO THE MECHANICAL SERVICES PERFORMANCE SPECIFICATION FOR DETAILS OF THE ZONING AND ITS CONTROL SYSTEMS.

### CONSERVATION OF FUEL AND POWER IN DWELLINGS

To comply with Part L1B of the Building Regulations.  
Ensure heat loss through fabric by means of airtight insulation and use of solar gain and efficient heating systems, including insulation of hot water pipes, air ducts, vessels, primary and secondary hot water connections where not required for space heating.  
Performance tests to be carried out during works with clear indication to building end-user on how to run and maintain system efficiently.

The new and upgraded building fabric is to be constructed to prevent thermal bridging and/or gaps in the insulation layer(s), gaps at joints between elements and around windows and doors. Please note the provision of dry-lining insulation boards to all window reveals to assist in achieving this objective. Air leakage to be reduced while maintaining adequate ventilation to Part F & L.

Space heating system controls to be provided. Zone controls to be provided by using room thermostats and/or thermostatic radiator valves. Timing devices to be fitted to heating system. Separate timing controls to be provided for space and water heating except combination boilers or solid fuel appliances.

Hot water systems as per Section 3 of Approved Document L1B.

Insulate pipes and ducts as per Approved Document L1B, paragraph 2.42.

Ensure all fixed lights are of the energy-efficient type, both internal and external. The ☼ symbol denotes rooms to include energy efficient light fittings.

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