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# TECHNICAL INFORMATION

**PROPOSED NEW BUNGALOW**

**AT**

**7 STATION ROAD**

**TYDD GOTE**

**WISBECH**

**FOR**

**MR M MELTON**

**DOCUMENT REF: SD22-023/TI**

# TECHNICAL INFORMATION

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**External Materials**

- Marley Modern smooth grey concrete interlocking roof tiles.
- Forterra Hampton rural blend stock facing bricks.
- White UPVC windows and doors.
- Black gutters and downpipes and soil and vent pipes.

Provide oversailing gabled and corbelled eaves.

Heating to be by air source heat pump.

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**Meter Boxes**
Position gas and electricity meter boxes if required in external position to suit client, to be completely sealed around in non-combustible material, to be minimum 500mm, maximum 1000mm above footpath to base.

**Roof Ventilation**
At eaves provide proprietary ventilation equivalent to a 10mm continuous gap along eaves.

**Valleys**
Use proprietary fibreglass valleys or provide Code 4 lead to valleys to make completely watertight.

**Kitchen Ventilation**
Provide proprietary mechanical extract ventilation unit capable of extracting 60lt/sec. Alternatively provide proprietary cooker hood capable of extracting 30lt/sec.

**Bathroom/En-Suite Ventilation**
Provide proprietary mechanical extract ventilation unit capable of extracting 15lt/sec. System to offer intermittent operation.

**Hot Water Storage**
Provide system approved by BBA and installed by BBA approved installer. System to be vented and insulation in accordance with BS5615 1985. Provide thermostatic control.

**Heating System**
Provide room thermostat or thermostatic radiator valves or similar approved to control the output from the heating system.

**Insulated Pipes and Ducts**
All pipes, which do not contribute to the heating of the building, will be insulated to BS5422 1977.

**Safety Glazing**
Provide safety glass to BS6206 to all windows to a minimum height of 800mm above floor level plus doors to a minimum height of 1500mm above floor level. Side screens to be same as doors if within 300mm of doors.

**Smoke Detection**
Provide mains operated self-contained smoke alarms to BS5839 Part 6, 2006 in accordance with Approved Document B1.

**Rainwater Goods**
PVC rainwater goods 110mm half-round gutters and 68mm diameter downpipes.

**Habitable Room Trickle Ventilation**
Provide proprietary trickle ventilators to head of windows giving a total opening area of not less than 8000mm$^2$

**Kitchen/Utility/Bathroom/WC Trickle Ventilation**
Provide proprietary trickle ventilators to head of window giving a total opening area of not less than 4000mm$^2$

**Utility Ventilation**
Provide proprietary mechanical extract ventilation unit capable of extracting 30 lt./sec. System to offer intermittent operation.

**Roof Insulation**
To roof spaces provide proprietary 300mm thick fibreglass insulation laid as 100mm between joists and 200mm across joists or equivalent to give 0.16 U/value. Ensure a gap of 50mm between roof underfelt and quilt at all times.

**Foul Water Drainage**
Underground drainage to be proprietary 110mm diameter p.v.c. pipes flexible jointed to fall 1:70 bedded in 100mm pea gravel. Under building drains to be encased in 150mm pea gravel with lintel over pipes at wall abutments. Where drain passes through wall, provide suitable protection to prevent gas ingress to building. 110mm diameter soil and vent pipe to extend 900mm above window head and to terminate in balloon finial. Soil and vent pipe to be fitted with access plate at base. Provide suitably sized wastes from all appliances (in accordance with Approved Document H) complete with minimum 75mm deep sealed traps and rodding eye access points at every direction change. All above ground drainage to BS5582 and all underground drainage to BS8301. Provide seal plates both sides of pipe entry to avoid vermin entry.

**Surface Water Drainage**
To be proprietary 110mm diameter p.v.c. pipes flexible joined to fall 1:70 bedded in 100mm pea gravel. Pipes to discharge into 1200mm diameter soakaways sited 5000mm away from buildings.

**Protection to Underground Pipes**
Where pipes are not under road and have less than 600mm cover concrete paving slabs should be laid as bridging above the pipes on minimum 75mm pea gravel. If flexible pipes are under a road and have less than 900mm cover reinforced concrete bridging should be used instead of paving slabs. Provide compressible material below slab/concrete.

**Inspection Chamber Construction**
Proprietary polypropylene inspection chambers bedded on 150mm concrete. Form protective 255mm thick concrete collar around head of inspection chamber with 300mm projection from cover. Covers to be Grade C light duty unless inspection chambers are in driveways where Grade B medium duty covers are to be used.

**Roof Intersections**
If compound truss used; where main trusses fix to compound truss provide proprietary truss connectors. Provide 32 x 175mm valley lay boards and fix reducing trusses over to complete roof intersection. Fix in accordance with roof truss manufacturers instructions.

**Roof Construction**
Roof tiles (see site plan for details) on 38 x 25mm softwood treated timber battens on underfelt to BS747 (Type 1F) lapped 150mm horizontally and 100mm vertically. Prefabricated roof trusses at 600mm c/c and pitch as stated in accordance with BS5268, 1985. Provide 25 x 100mm timber bracing and fix in accordance with truss manufacturers instructions. All trusses and gable ladders (if any) to be strapped to 50 x 100mm timber wallplate, the gable wall at verges and ceiling level with 30 x 5mm mild steel anchor and lateral restraint straps to span minimum 3 no. trusses at a maximum of 1200mm c/c. At strap positions provide pack and noggins to trusses. Main contractor to supply local authority building control with roof truss calculations 28 days prior to erection on site. Provide concrete padstones at compound truss supports where required by roof design. Water storage tanks to be installed in accordance with Technical Bulletin No. 4I.T.P.A. with timber support members to span 4 no. trusses.

**Header Tank Support**
Water tank in roof space to be supported on bearers to spread the load to BS5268 Part 3 1985.

**Ceilings**
To all insulated roof ceilings provide 12.5mm Gyproc Duplex plasterboard of 10kg/$m^3$ or similar and either 5mm skim or Artex finish. To remaining ceilings provide 12.5mm Gyproc plasterboard or similar with finishes as above.

**Garage Floor Construction**
100mm concrete oversite on 1200 gauge polythene d.p.m. on minimum 150mm, maximum 600mm well blinded and compacted hardcore. If garage is integral to house finished floor level to be 100mm below that of house. Wall d.p.c. to lap floor d.p.m. by a minimum of 50mm.

**Ground Floor Construction**
65mm sand/cement screed on 100mm Celotex insulation with perimeter insulation to screed on 1200 gauge polythene d.p.m. on 100mm concrete oversite on minimum 150mm, maximum 600mm well blinded and compacted hardcore. Wall d.p.c. to lap floor d.p.m. by a minimum of 50mm.

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**Lintels**
All coded lintels as stated in Schedule or marked on plan to be by 1.G. To be installed in strict accordance with manufacturers instructions. Form d.p.c. cavity tray above all lintels. To all exposed lintels i.e. not sheltered from overhanging eaves, etc. to have proprietary weepholes to joints of brickwork at approximately 450mm c/c. To be confirmed on site with Building Control Surveyor

Opening at eaves level to be L1/E lintels by I.G. or similar approved.

**Sub-structure Walling**
100 mm Class A dense concrete blocks. Bitumen felt d.p.c. to external walls 150mm above ground level. Weak mix infill to base of cavities to terminate 225mm below lowest d.p.c. level.

**Foundations**
As indicated on plan provide concrete strip foundations. To cavity walls provide 700mm wide x 225mm thick and to 100mm walls provide 450mm wide x 225mm thick, unless noted otherwise. To non-load bearing internal walls thicken out ground floor oversite concrete to 450mm wide x 200mm thick. Widen foundations at chimney breast accordingly and make 300mm thick. Foundations to be taken down to an approved firm base, subject to local authority specifications. Concrete to be ST3 grade unless noted otherwise. Proximity of existing and proposed trees are to be taken into account in accordance with N.H.B.C. chapter 4 when determining foundation depth.

Provide a firm level approach to front entrance of minimum width 900mm. Gradient of approach to be no steeper than 1:20. At entrance to building threshold to be maximum 15mm high.

External access door that serves as access to ground floor WC to have a minimum clear opening width of 775mm.

Ensure minimum 900mm corridor width, access to ground floor WC with no obstructions (radiators, etc.) to corridor area adjacent doors

Sockets, light switches, TV points, doorbells to habitable rooms to be positioned between 450mm and 1200mm above floor level.

Provide area within main driveway of hard surfacing (block paving, tarmac or similar) of adequate size to enable wheelchair access from parked vehicle direct to main access of dwelling. Footpath minimum 900mm wide to be directly linked to hard surfacing driveway.

Minimum width of corridors and passageways for a range of doorway widths

| Doorway clear opening width(mm) | Corridor/Passageway width (mm) |
|---|---|
| 750 or wider | 900 (when approached head-on) |
| 750 | 1200 (When approached not head-on) |
| 775 | 1050 (when approached not head-on) |
| 800 | 900 (when approached not head-on) |

All windows to give minimum 1/20$^{th}$ of floor area as ventilation and to be double-glazed.

**Glazing**
All windows and doors to be double-glazed with Pilkington 'K' glass or similar approved, to achieve either WER Band C or a 'U' value of 1.6W/m²K.

**Commissioning of Heating and HWS Systems**
A competent person, i.e. the main contractor or sub-contractor shall supply a Certificate of Satisfactory Compliance with Building Regulations Part L. A copy of which shall be made available to both the client and the Building Control body.

A suitable set of operating and maintenance instructions are to be made available to the client to explain to the householders how to operate the systems so that they can perform efficiently and what routine maintenance is advisable for the purpose of the conservation of fuel and power.

**Internal Lighting**
Provide energy efficient lights that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt. Examples of lamps are fluorescent tubes and compact fluorescent lamps (note GLS tungsten lamps with bayonet cap or Edison screw bases).

Method of determining number of locations:

75% of all lighting to be energy efficient.

Excludes garages, lofts and outhouses.

**Sewage Treatment Plant**
A suitable notice in regard to the package treatment work should be provided within the property, it is suggested that this is contained within a property log book. An example of the wording could be, 'The foul drainage from this property discharges to a package treatment works. Maintenance is required (insert frequency) and should be carried out by the owner in accordance with manufacturer's instructions. The owner is legally responsible to ensure that the system does not cause pollution, a health hazard or a nuisance'.

**Integral Garage**
Internal door between dwelling and garage (where applicable) to have 100mm step down into garage and door to be ½ hour fire-resisting self-closing type. Ceiling between garage and domestic room above (where applicable) to be ½ hour fire-resisting.

**Electrical Work**
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 of the works the council must be satisfied that either:-
a) an electrical installation certificate issued under a competent person's scheme has been issued
or
b) an appropriate electrical installation certificate has been issued for the work, and that it has been signed by a person competent to do so.

**External Cavity Wall Lintels for 300mm Cavity Walls**
IG type L1/S100 unless stated otherwise. To be confirmed on site with Building Control Surveyor.

**Internal Lintels**
IG type Internal 100mm lintels to openings in 100mm internal walls unless stated otherwise.

**Purge ventilation to windows**
For a hinged or pivot window that opens 30° or more the height and width should be at least 1/20$^{th}$ of the floor area of the room.
For a hinged or pivot window that opens less than 30° the height and width should be at least 1/10$^{th}$ of the floor area.

**Background Ventilation**
Background ventilation is to be provided by trickle ventilators to the tops of windows. Use trickle vents offering 8000mm$^2$ per window head. Ventilation for whole extension to be 120,000mm$^2$

The flow rates for the mechanical extractor must be tested and results given to Local Authority Building Control to show that the extraction rate is the same as that specified in 'Approved Document F – Means of Ventilation', no later than 5 working days after the final test.

Provide wholesome or softened wholesome water to any wash basin in or adjacent to any room containing a sanitary convenience and any wash basin, bidet, fixed bath and shower in a bathroom.

Provide heated wholesome water or heated softened wholesome water to any wash basin or bidet in or adjacent to a room containing a sanitary convenience and any wash basins, bidet, fixed bath or shower in a

bathroom and any sink that is provided in an area where food is prepared.

The hot water supply to any fixed bath is to be designed and installed with measures to ensure that the temperature of the water that can be delivered to the bath cannot exceed 48°C.

All glazing to meet the requirements of 'Approved Document K – Safety Glazing' in relation to impact, opening and cleaning.

Water calculations are to be supplied to South Holland District Council Building Control showing how the water usage will be limited to 125 litres/per person/per day.

**Mechanical Ventilation**
Mechanical ventilation systems are to be commissioned in accordance with Regulation 44 (where they can be tested and adjusted to provide adequate ventilation) and a copy of the commissioning notice is to be given to the local authority not more than 30 days after completion of the works.

**Hot Water Temperature**
Where the operating temperature of the hot water storage vessel is capable of reaching 80°C it should be fitted with a safety device to ensure the temperature distributed does not exceed 60°C. The safety device from the hot water supply should discharge to a place where it will not pose a danger to any person. The hot water supply to the bath should be controlled so that it does not exceed 48°C

All easily accessible doorsets (including garage doorsets and communal entrance doorsets) that provide access into a dwelling or into a building containing a dwelling should be secure doorsets to the following:
a Manufactured to a design that has been shown by test to meet the security requirement of British Standard publication PAS 24:2012 or
b Designed and manufactured in accordance with Approved Document Q appendix B.

Ground floor, basement and other easily accessible windows (including accessible rooflights) should be secure windows in accordance with Approved Document Q paragraphs 2.2 and 2.3, windows should be made to a design that has been shown to meet the security requirement of the British Standards publication PAS 24:2012.

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

Consumer units should be mounted so that the switches are 1350 – 1450 mm above floor level.
Any room which requires an extractor fan that does not have an openable window to have a 15 minute over-run provided to the extractor fan.

Wall tiles around openings to be spaced vertically a maximum of 300mm and should be within 225 of the opening.

**External Wall Construction (300mm cavity)**
100mm facing brickwork (see site plan for details)
100mm thick regid board insulation (Thermaclass cavity wall 21 or similar)
100mm inner skin of tarmac Hemalite blocks
Cavity wall ties to be stainless steel type spaced 900mm horizontally and 450mm vertically to BS1243;1978. Internal block walls to receive 10mm sand/cement render and skim. Robust details in accordance is T50,2001

Brickwork below d.p.c. to be F.L. quality

All soakaways to be minimum 1m deep.

Provide cavity trays above in situ meter boxes.

Provide area for provision of solid waste storage (rubbish bins).

All external lintels to be insulated type.

All external joinery to be fully draught proofed.

Loft hatch to be draught sealed and latched shut.

Insulation in roof space to meet with insulation in external cavity walls to prevent cold bridging.

To all domestic floors to external perimeter walls provide 25mm thick insulation dressed up walls to prevent cold bridging.

Seal all openings and joints to perimeter walls.

All doors, windows and any loft hatches to be effectively sealed and draught proofed.

Provide a fibrous separating member between floor screed and insulation and provide chicken wire between insulation and screed.

Internal wall between garage and dwelling to achieve a 'U' value of 0.35W/$m^2$K.

Smoke detectors to be to BS5839/6:2004, Grade D, Category LD3.