

Constructional Specification 10/LMA/7.

Single storey side & rear extension and new roof over existing at: 10 Lower Mardyke Avenue, Rainham, Essex RM13 8PP.

For: **Chris & Tina Gittos.**

To be read in conjunction with drawings 10/LMA/1, 2, 3, 4, 5, & 6. and structural calculations 10/LMA/8

General:

These drawings are for the purpose of obtaining local authority approval only and should be construed as such. All dimensions and levels to be checked and verified on site. All work to be carried out to current Building Regulations, British Standards, and Codes of Practice.

Foundations:

Trenches to be 500mm wide (increased to 600mm wide where eccentrically loaded to flank) x minimum 1000mm deep below lowest adjacent ground/formation level. No trees within 30m to affect foundation design. Mass filled with sulphate resisting concrete Grade 20 to BS.8500-1:2002.

Drains:

All new below ground drainage in flexibly jointed uPVC drainage to BS.EN.295-1:1999 bedded and backfilled in lean mix concrete all as shown and detailed on plans. Both existing manholes to be removed and drain extended to rear with new 225mmØ inspection chamber provided for rodding access. All existing and new connections to main drum run to be via swept "Y" or "T" connections and to be fully roddable. Drains where passing through walls to be bridged with 2 No 100mm x 150mm reinforced concrete lintels. Rainwater to front unaffected to rear two new gullies to be taken to new two new soakaways. Soakaways to be 1m³ below invert level of pipe and constructed of Aquacell Crates or similar approved wrapped in geotextile membrane all as per manufacturer's specification and sited a minimum of 5m from any building.

Waste plumbing:

Fit and connect uPVC pipework in accordance with BS.EN.1329-1:2000. W.C. 110mmØ. Sink, & shower 40mmØ, Basin 32mmØ. Fit rodding eyes at bends and 75mm deep seal traps. Where small diameter waste pipes are fitted in combination the pipe size is to be increased to 50mmØ. SVP to be provided with rodding access 450mm above finished floor or ground level and to finish 900mm above any opening window within 3m. New stub-stack to be fitted with air admittance valve which should be removable for rodding purposes.

Rainwater goods:

100mm half round gutters and 63mm down pipes to match existing to run equally from front to rear. Perched gutter formed in 18mm WBP plywood with tilting fillet to give nominal fall and covered in code 4 Lead dressed up and under roof tiles by minimum 150mm and down and over wall.

Ground floors:

(extension) 75mm sand and cement screed with nominal anti-crack reinforcement laid over continuous polythene vapour barrier separating membrane and 100mm thick Celotex GA4000 insulation. 150mm oversite concrete incorporating A393 reinforcement mesh on 1200guage polythene DPM lapped a minimum of 100mm with new and existing DPC's on 25mm soft sand blinding on 150mm clean well

compacted hardcore (note where required depth of hardcore exceeds 150mm then it's to be laid and compacted in layers not exceeding 150mm and in total not more than 4 layers (600mm). Extend any existing air bricks through new floor by ducting with 110mm uPVC pipes and 225mm x 150mm airbricks.

Walls:

(External block cavity) 19mm smooth sand/cement render to BS.EN.13914-1:2005 painted to match existing on 100mm Celcon Standard block outer skin, 100mm cavity fully filled with Dri-therm 32 batts, 100mm Celcon Solar inner skin. Finished internally with two coat light-weight plaster. 225mm long stainless steel wall ties spaced at 450mm vertical centres, 900mm horizontal centres, & staggered, wall ties to be doubled at reveals.

(External brick cavity facing neighbours at No 12) all as above except external skin to be 103mm facing brickwork to clients choice.

(General) All cavities closed with Thermabate insulated cavity closers. Lintels to be Catnic pressed steel suitable for spans shown with minimum 150mm end-bearing. DPC to be minimum 150mm above ground level and brickwork only below DPC cavity to be filled to within 225mm of DPC with lean mix concrete. All new walls tied to existing with Furfix profiles. Lateral restraint by 30x 5mm mild steel straps fixed across three no floor joists and/or rafters and ceiling joists @ 2m centres.

(Internal partition between dressing room and garage) 100mm Celcon Solar blockwork (note oversite concrete reinforced so no need to thicken below partitions). To garage side 18mm WBP plywood fixed to 122mm x 47mm studwork filled with 100mm thick Celotex GA4000 insulation Finished to dressing side both sides with two coat light-weight plaster. Note all walls (both new and existing) separating garage from accommodation to be taken to underside of roof deck and fire stopped (including space between tile battens).

(Other internal partitions) 100mm Celcon Solar blockwork (note oversite concrete reinforced so no need to thicken below partitions). Finished both sides with two coat light-weight plaster.

Roofs:

(New roofs) Concrete interlocking tiles to match existing laid in accordance with manufacturers specification and 100mm headlamp all tiles to be nailed and ridge tiles mechanically fixed as well as bedded in mortar all on 25mm x 50mm tanalised tile battens on Tyvek breathable roof membrane on 97mm x 175mm C24 rafters @ 400mm centres fixed to ridge board to match and extended from existing 47mm x 220mm hip and valley rafters or where vaulted ceiling provided to 97mm x 47mm C24 wall plate fixed to top of ridge beam and fixed over 97mm x 47mm C24 pole plates and or wall plates wall plate strapped to new walls by 30mm x 5mm mild steel straps @ 2m centres vaulted rafters to be positively fixed by truss clips to top & bottom fixed by timberloc connectors to 47mm x 97mm ceiling joists @ 400mm centres ceiling joists nailed to wall plates. Insulation to be placed between rafters as per existing roof and to be 100mm thick Celotex GA4000 insulation between rafters and 50mm thick Celotex GA4000 insulation to underside. Studwork wall to separate vaulted ceiling from main roof and if vaulted ceiling option chosen then studwork wall

to be constructed of 97mm x 47mm timber studs @ 400mm centres with 47mm x 97mm head and sole plates and mid height noggins finished to room side with 12.5mm plasterboard and skim coat insulated between studs with 75mm Isowool sound insulation quilt and collar ties provided to restrain roof. Internal finish to ceilings to be 12.5mm plasterboard and skim. Note see attached roof plan for possible position of Velux roof lights and attached details for possible Velux sun tubes to existing bathroom all installed as per manufacturers details. All fascias and soffits to be in white uPVC to match existing.

(Roof over existing flat roof) All as other roof existing ceiling and flat structure to be retained but to be cut back to allow construction of new roof **ALL TO BE AGREED ON SITE.**

Structural schedule:

Ridge beam: 203mm x 102mm x 23Kg UB fixed to and supported by 100mm x 100mm timber post where built into studwork wall separating the vaulted ceiling from the main roof post fixed to ridge beam and beam 1 by purpose made 6mm thick mild steel shoes welded to beams and by 50mm x 50mm x 6.3 SHS welded to ridge beam and lintel 1.

Beam 1: 152mm x 89mm x 16kg UB on 100mm wide x 350mm long x 15mm thick mild steel bearing plates each end.

Lintel 1: 203mm x 203mm x 46kg UC on 250mm wide x 100mm long x 10mm thick mild steel bearing plates each end.

Beam 2: 4no 47mm x 195mm C24 timbers bolted together at 600mm centres by M12 bolts and dog-toothed connectors with minimum 150mm end-bearing each end;

All steelwork to be treated with red oxide paint for rust protection and intumescent coating to achieve ½ Hour standard of fire-resistance. Steel column and lintel 1 to be clad in profiled steel cladding colour to match bi-fold doors and celestory windows Celotex insulation provided to web of lintel 1 to reduce cold-bridging.

Windows, doors, ventilation, etc:

(New windows and doors) to be white uPVC style to match existing all to be double glazed with 16mm air gap low E glass and argon fill to achieve a U-value of 1.6 or better, bi-fold doors by specialist also to achieve a U-value of 1.6. All glazing in doors and adjacent sidelights where within 1500mm of finished floor or ground level and other glazing where within 800mm of finished floor or ground level to be safety glass in accordance with BS.6206.1981.

(Roof lights) by Velux if provided to clients choice installed in accordance with manufacturer's instructions including flashings, etc.

(Ventilation) All new rooms to be provided with windows or doors that open greater than 30° and have an opening area in excess of 1/20th of the floor area of the room served and provided with background ventilation (via trickle ventilators in window heads) of equivalent area:

a. 5000mm² to bedrooms & living/dining area; and

b. 2500mm² to kitchen, utility, & en-suite.

Mechanical extract ventilation ducted to outside air to be provided as follows:

- a. Kitchen, capacity 30 litres/second via cooker hood;
- b. Utility room, capacity 30 litres/second;
- c. Existing ground floor bathroom, capacity 3 air changes/hour linked to light switch with 20minute overrun (note door to be undercut by 10mm to provide input air);
and
- d. En-suite, capacity 15 litres/second.

(Heating and hot water) Existing boiler to be adapted including extending flue, all new radiators to be fitted with TRV's. New hot water to be provided from existing boiler. All works to gas installation to be carried out by a GASSAFE installer and a copy of all installation, testing, and commissioning certificates are to be provided on completion of the works.

(Electrical and lighting) All electrical works to be in accordance with BS 7671:2001 and carried out by a qualified electrician who is also a member of a competent persons and a certificate issued on completion of the works.

All lighting to be energy efficient and if down lighters are to be used these are to be LED type to avoid unnecessary cutting back of insulation to sloped ceilings.