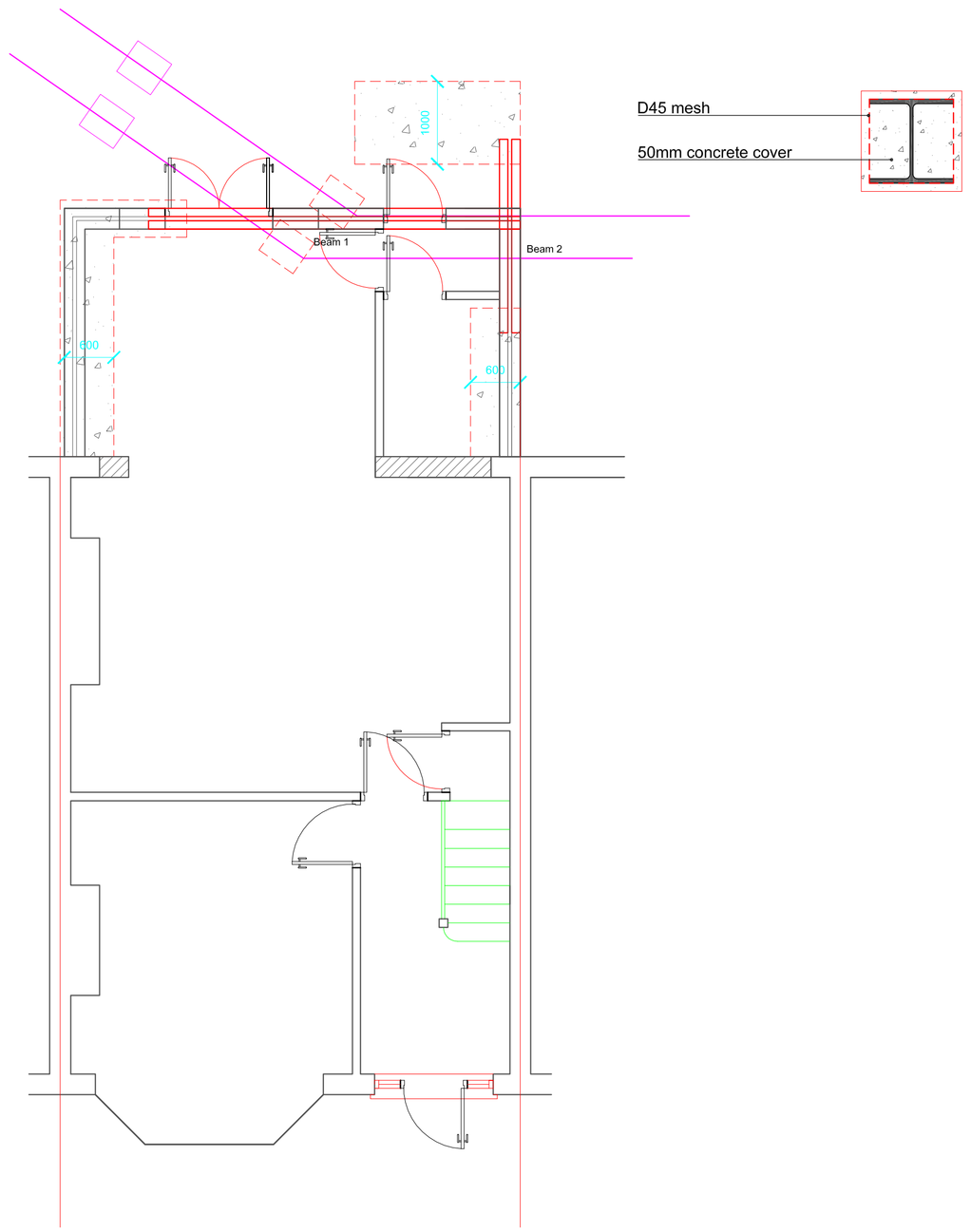
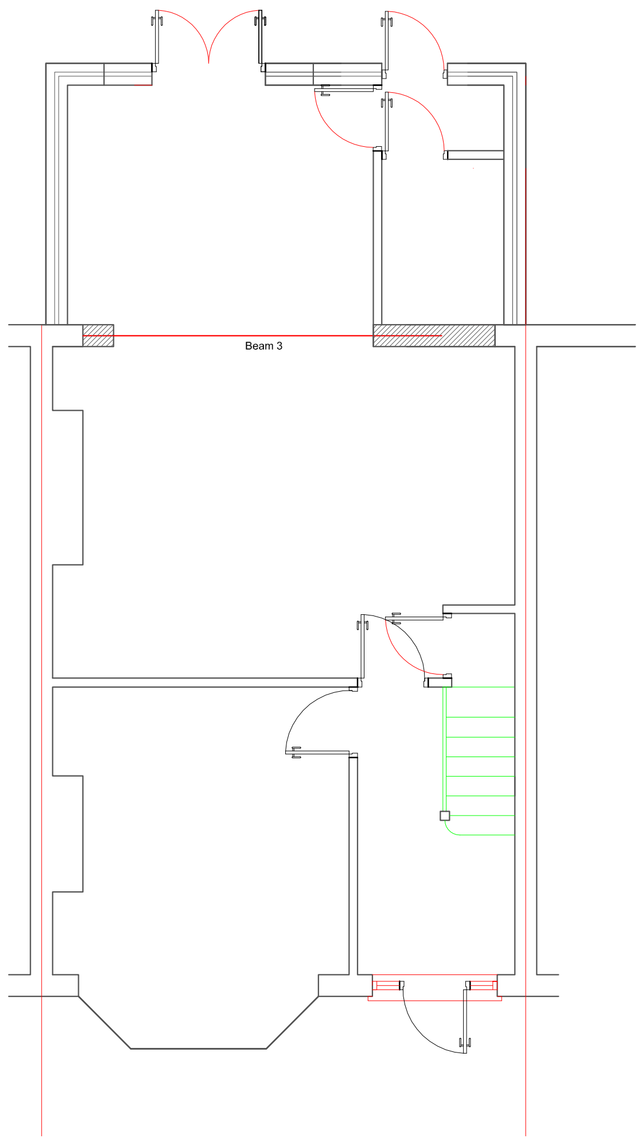
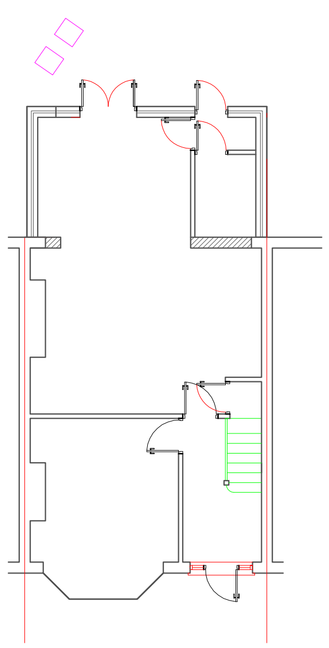


STRUCTURAL FOUNDATION PLAN



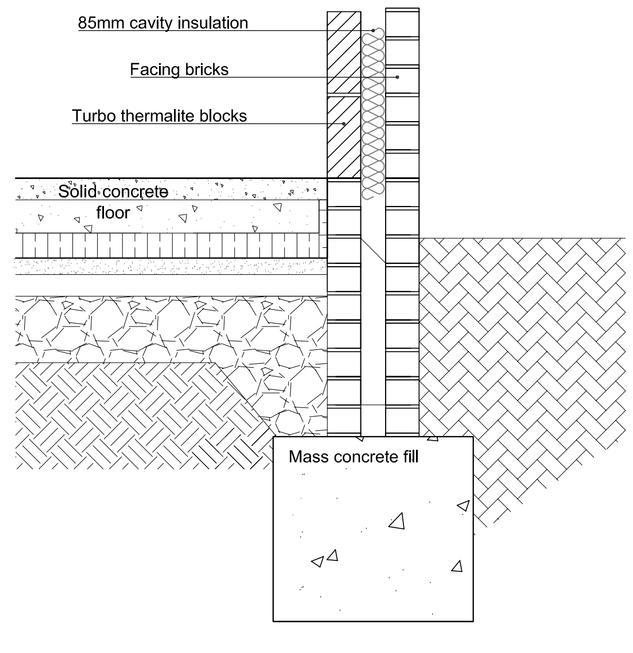
STRUCTURAL ROOF PLAN



MOE windows/Smoke Detection
Means of escape window to be provided to the habbitable rooms on the 2nd floor with an openable area not less than 0.33m2 (with dimensions of at least 450mm high and 450mm wide). The escape window 1100mm from finished floor level. Inter-linked Smoke Detectors to BS 5446 (mains and battery backed) are to be provided in the hallway and landing.

For soakaways serving areas greater than 25m² reference should be made to BS EN 752-4, or BRE Digest 365 Soakaway design. BRE Digest 365 is the most commonly used document.
The Building Regulations dictate an order of priority for the selection of surface water from buildings and these are:
1.An adequate soakaway or some other adequate infiltration system, or where that is not reasonably practical,
2.A watercourse, or where that is not reasonably practical,
3.A sewer.
A soakaway should always be the first choice but must not be used:
Within 5m of a building or road, 2.5m of a boundary or in an area of unstable land in ground where the water table reaches the bottom of the soakaway at any time of the year, near any drainage field. Drainage mound or other soakaway so that the overall soakage capacity of the ground is exceeded and the effectiveness of any drainage field impaired, where the presence of any contamination in the runoff could result in pollution of groundwater sources or resources.
Percolation tests should be carried out to determine the capacity of the soil

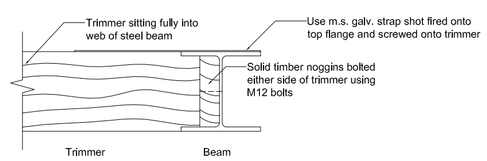
Ventilation:
Ensuite to have 15 litres per second mechanical extract fan ducted to external air, and 4000mm2 of background ventilation.



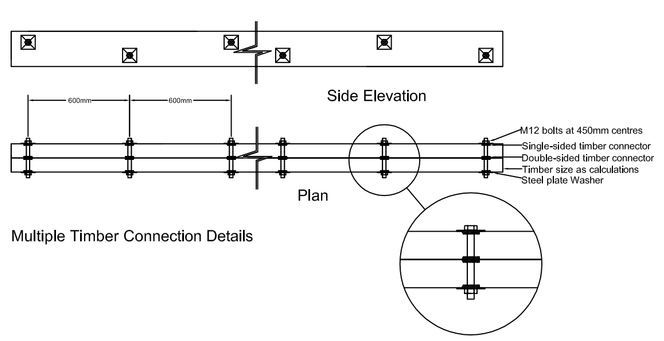
Foundation detail

ITEMS:
1: Beam: 1
Use 203 x 203 x 60 UC Grade 43
2: Beam: 2
Use 203 x 203 x 46 UC Grade 43
2: Beam: 3
Use 203 x 203 x 60 UC Grade 43
weld 12mm steel plate onto top flange to accommodate cavity wall

GLASS AND GLAZING MATERIALS
A. Standard 1" (25.4mm) overall dual sealed insulated glass unit with 9/16" (14mm) air space. Stainless steel spacer with desiccant, primary seal polyisobutylene, secondary seal silicone.
B. Glazing: Each I.G. unit fully glazed with silicone gasket, no sealants.
C. Glazing
Type 73 Laminated Low-E: Exterior lite 4mm (5/32") clear annealed with Low-E2 coating, 14mm (9/16") air space filled with argon gas, interior lite two plies of 3mm (1/8") heat-strengthened laminated with .015" vinyl interlayer.
U-value 1.6 W/m2K



BEAM TO TRIMMER CONNECTION DETAIL



Multiple Timber Connection Details

Dormer Flat Roof:
To be constructed of minimum two layer AC rated high performance felt to BS 747, laid to CP 144, on 18mm external quality ply-sheeting for roof stability on 50 x 50 cross batterns on minimum 1:60 firring pieces on roof joists (sizes as per plans), with solid timber noggins at mid-span. Felt to be dressed 450mm up roof slope under tiling on layboard. Ceiling of 9.5mm foil backed plaster board and 5mm plaster skim with 150mm Kingspan Thermapitch TP10 (minimum U-value of 0.18W/m2degreesC), provided as insulation. Roof joists to be connected to the existing rafters using M10 bolt and timber connectors. Roof to be vented at eaves with continuous 25mm air gap incorporating insect screen. Minimum 50mm air space to be maintained above insulation for cross ventilation. Rain water gutters of 112mm PVC and down pipe of 65mm diameter PVC discharging with shoe onto existing roof slope, and into existing surface water gullies.

Construction Notes:

1. 285mm cavity wall construction. 100mm brickwork outer leaf finished in to match existing house. 85mm cavity fully filled with Dritherm 37 to give a U-Value of 0.28. Provide insulated cavity closures around all reveals with vertical DPC. 100mm turbo thermalite block inner leaf finished with 13mm dense plaster and class B Gypsum finish coat. Blocks to have a min strength of 4.0N/mm², and laid strictly to block manufacturers instructions. Two skins of cavity wall to be tied with stainless steel butterfly wall ties to BS1243 and spaced at 450mm centres vertically and 900mm centres horizontally (staggered), centres to be doubled-up at reveals. Cavity to be kept clean of mortar droppings.

2. Use stainless steel wall connectors to tie new blockwalls to existing walls. fitted in accordance with manufacturers instructions.

3. Structural steelwork. Any structural steelwork is to be either boxed in with ½" plasterboard & 5mm gypsum plaster skim or painted with intumescent paint e.g. Brostel applied in accordance with the manufacturers specification, to achieve half hour fire resistance. Solid timber noggins are to be provided where timber beams/joists are to be supported in the web of the steel.

4. Structural timbers. Timbers are to be C16 grade unless otherwise specified. Multiple timber beams are to be bolted at 600mm centres using M10 bolts with steel plate washers and double-sided timber connectors.

Internal walls:
Stud walls and partitions formed of 50 x 100mm studs at 400mm centres with 50 x 100mm head and sole plates, and noggins at 900mm centres. Studs to be lined both sides with ½" plaster board and 5mm plaster skim, and infill with 100mm Rockwool insulation.

Ventilation:
New bedrooms to have 5% of floor area in ventilation openings for rapid ventilation and 8000mm2 of background ventilation. Bathroom to have opening window and an additional 15 litres per second mechanical extract fan ducted to external air, and 4000mm2 of background ventilation.

Glazing:
New windows to be K-type double glazing (1.6W/m2degC). Any windows less than 800mm above floor level to have toughened glass.

Safety Glazing:
All windows to be min 800mm to cill from finished floor level otherwise glass is to be toughened/laminated.

Electrical installation:
All electrival works to be designed, installed, tested and approved by NIC/EIC registered electrician and a BS:7671 completion certificate to be provided to the council surveyor

Foundations
Existing foundations which are to support new extra loadings to be exposed and checked for adequacy by L.A. surveyor and underpined if necessary (at L.A. surveyors descression).

all dimensions to be varified on site.
All dimensions and levels to be checked on site prior to commencement and any discrepancies notified to the designer.

All works to comply with the latest Code of Practice and British Standards Specification.

PARTY WALL etc. ACT 1996. Written notice must be given to the adjoining owners prior to the start of work on site, 2 months notice for works to the party wall or party structure, 1 months notice for all other works.

All drawings to be read in conjunction with the structural calculations.

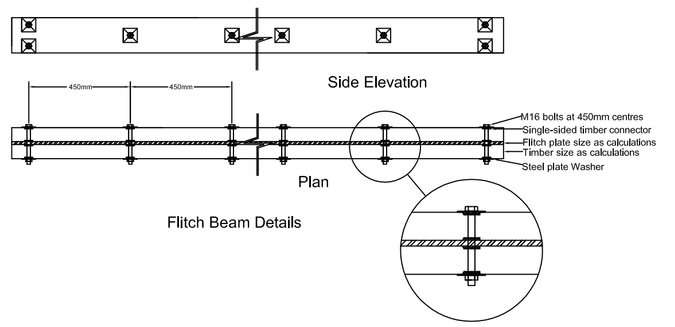
Foundations to be designed in accordance with the NHBC guide note 4.2 and min. 1 metre deep. Also below the invert level of any adjacent drains. Foundations deeper than 1.5m due to trees within a 30m radius to have 100mm claymaster provided to the inside face of the trench & a suspended floor system provided.

Ground Bearing Slab:
Use 65mm thick screed, 1:3 cmt/sharp sand with D49 mesh placed central in screed, on 100mm concrete on 75mm Celotex GA4000 insulation (μ = value to achieve 0.22 W/m²K) on 1200g visqueen DPM lapped with new and existing DPC on sand blinding on clean well compacted hardcore. Use 100mm dia. pipes and new air bricks to ventilate existing sub-floor.
Buid up-to DPC in semi-eng. brickwork min. 150mm above ground level. Allow a 225mm clear cavity.
All new drains to be determined on site and agreed with L.A surveyor/Private Inspector prior to the commencement of work on site. Existing depths and line of surface water and foul water to be established prior to the commencement of work.

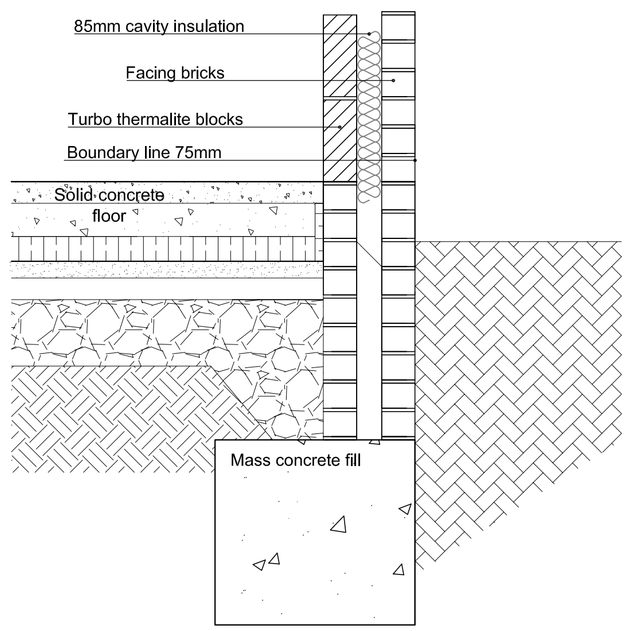
New rainwater drainage connections to also be determined on site and agreed with L.A surveyor/Private Inspector prior to installation. If necessary rainwater but with lid & suitable overflow provision to be provided.

All new drainage work to have a minimum of 1:60 fall with a 100mm pea shingle surround and to satisfy BS8301

Where any drainage pass foundation lintols to be used to carry brick and blockwork of extension. 2no 150 x 100 reinforced P.C.C lintols to be used.



Flitch Beam Details



Boundary detail

PROJECT TITLE	210 Park Lane N17 0JA						
DRAWING TITLE	Proposed Structural First Floor Plans						
DWG STATUS							
DRAWN		FILE		DATE	May 2016	REVISION	
CHECKED		JOB NO		SCALE	1/50	DWG NO	PL - 2016/001