

This technical drawing illustrates a cross-section of a roof assembly. The structure includes vertical wall elements on both sides, with internal bracing visible. Key components labeled include:

- Top Layer:** 203mm x 203mm x 46kg UC (Universal Column).
- Roof Structure:**
 - Double up joists around roof lights.
 - Ridge beam: 152mm x 152mm x 30kg UC.
 - Roofs flat roof joists at eaves.
- Insulation & Linings:**
 - Ensure that all existing cold roof Areas are insulated to achieve 0.16U (ie 270mm thick insulation).
 - Install doubled up 100 x 50 trimmers around new Velux roof lights.
 - Downer sheaths.
 - Azi rollers.
 - Downer checks.
 - Ex rollers.
- Concrete Elements:**
 - 400 x 100 x 150 conc. padstones (multiple locations).
 - 400 x 100 x 150 deep conc. padstone (at base right).
- Dimensions & Spacing:**
 - Min distance 200mm back from external face of wall.
 - Min 200mm (vertical dimension).
 - 208mm x 203mm x 46 Kg UC (horizontal member near base).

Architectural section drawing of a proposed extension to a building. The drawing shows a cross-section of the existing structure and the new extension, including a new dormer for a bedroom and a new staircase.

Annotations and Details:

- Roof:**
 - install 152 x 152 x 46 kg ridge beam
 - 225 x 100 x 150 concrete padstone bearings
 - roof to below ridge height
 - fall 1:40
 - 100 x 50 dormer frame b new steelwork
 - min distance 200mm external face of
- Bedroom:**
 - 152 x 152 x 46 kg ridge beam
 - new floor joists to be 200 x 75 at 400 c/c supported off joist hangers and steelwork
 - all steelwork encased in 30 minute fireline board
 - 203 x 203 x 46 kg UC
 - retain ex. ceiling joists
 - 203 x 203 x 46 kg UC
- Staircase:**
 - new staircase
- Office:**
 - sky light
 - Roof lantern to be constructed in aluminium section with pvc cladding. Glazing to be Pilkington glass or similar approved. Aluminium frame to be fixed to 100mm raised plinth affixed to flat roof suitably weathered by roof covering material.
- Ground Floor:**
 - Ground floor constructed with 75mm screed on 150 conc. slab with #7.35 steel reinforced mesh fully suspended off perimeter walls to avoid additional loading on sewer. Lay 80mm Kingspan insulation and drop 150 to all existing doors.
- Other Details:**
 - 100 Celotex FR4000 between rafters
 - 37.5mm Celotex P.4100 to u/s of rafters
 - 2" x 19 battens to sides of rafters to secure insulation and maintain 50mm air gap
 - between joists and
 - supporting tiles to match existing gull over

STEEL SCHEDULE	
Beam supporting demolished wall at ground floor	203mm x 133mm 25kg UB
Post supporting beam	100mm x 100mm x 5mm Post
Floor support beams at Loft Level	203mm x 203mm x 46kg UC
Ridge Beam	152mm 152mm x 30 kg UC

Indicates new 203 x 203 x 25kg UB

250 x 130 x 10mm mild steel plate welded to top of post. Beam held in position on plate with 4 no. M12 (grade 8.8) bolts

100 x 100 x 5 steel post

400 x 400 x 16mm mild steel plate welded to bottom of post. Plate held in position on foundation with 4 no. 16mm diameter holding down bolts

600 x 600 x min 1000mm deep concrete pad foundation (all to satisfaction of building contractor)

Dormer flat roof to comprise breathable felts over 125mm cooling war deck, 150 x 50 joists at 400ccs and 12.5mm foil backed plasterboard. Felts to be taken under ridge and suitably weathered

Install 125 x 50 headers over openings bearing down on vertical posts

boundary

build up gable in 215mm Celcon blocks and apply 80mm Celotex PL4000 or similar approved insulation to inside face of wall

400 x 100 x 150 deep conc padstone

Min fall 1:40

150 flashings

100mm outer skin block with waterproof render, 100mm insulated cavity Dutherm 32 or similar, 100mm inner blockwork

DPC min 150 mm above ground level

new mass conc. footings min 150mm deep

solid floor to be constructed with 75 mm min sand cement flowing screed on 100mm (50kg 0.1m3/30.2m3 concrete above 80mm Kingspan insulation over damp proof membrane tied to all dpc's

provide 50mp polystyrene between new and ex. footings to prevent removal of support and transfer of additional loads

DELETE SIDE EXTENSION

dormer cheeks bolted to rafters

dormer frame bolted to existing rafters

boundary

Dormer frame to bear on UB as indicated built up in 100 x 50 treated studwork at 400ccs, 12mm external quality plywood, cross battering, breathable membrane and vertical hung tiled finish, 90mm Kingspan between

Construct an independent framework using
Metal 'I' studs, 10mm clear of the existing separating wall
Infill between studs with 50mm Earthwool acoustic roll.
Screw fix plasterboard to the steel framing as specified
Seal round the perimeter of the plasterboard with acoustic
Sealant

External wall full cavity U Value = 0.28W/m²qK
New cavity wall structure to external wall in 2 skin cavity configuration comprising 100mm light weight 7 N block rendered to match existing outer skin, 100mm o/a skin and 100mm light weight 7 N block by Celcor Soler or similar approved for inner skin. Blockwork laid in 1/6 cement mortar to BS 5268.
Provide full cavity insulation (Rockwool or similar approved) within cavity wall ties to BS 1243 to be B45M PT 22 stainless steel wall ties (with insulation retaining discs) spaced 450mm vertically and 750mm horizontally. Ties bedded not less than 50mm into bed joint, sloping slightly downwards towards outer skin and with additional ties within 225mm of openings. Close cavities at tops and bottoms of walls with brick Vertical cavity chases within walls not less than 1/3 block thickness, horizontal chases no deeper than 1/6 block thickness in accordance with Building Regulations A1 see CP 131

Internal stud partitions walls comprising 100 x 50 treated softwood studs at 400mm centres horizontally and 1200mm centres vertically, faced each side in 12.5mm British Gypsum moisture resistant plaster wall boards to receive plaster skim finish ready for decoration. Supply and fit mineral insulation quilt (10 kg/sqm density) between studs.

New trench fill foundations for cavity work in designated concrete mix GEN 3 to BS 8500 taken down to min. level of min. 1200mm all to suite local strata conditions and NHBC/Zurich guidelines on building in the proximity of trees and Local Authority approval.

All openings in cavity walls to be bridged with 'IG' insulated galvanised steel lintels to manufacture's recommendations, L1/S to openings less than 2400mm and L1/H/D to openings over this length. Internal lintels in blockwork partitions to be pre-stressed conc. or pre-cast reinforced concrete lintels to BSM 845-2 2003 and not less than designated min RC25/30 Lintel sizes to conform to manufacturers recommendations. All lintels to have min. 150mm bearing with cavity trays over and weep holes at min 450mm spacings

Polymer type dpc to all walls min 150mm above ground level and continuous with existing. Provide 150mm wide dpc to all cavity closures. Close cavities at reveals with good dpc detailing and incorporate RMC - Thermobate insulated cavity closer to outer cavity, installed to manufacturers recommendations. Install dpc cavity trays to heads of openings and dpc tray below sills all in accordance with established good dpc detailing practice.

Windows and doors to be proprietary purpose made UVPVC fitted with double glazed factory sealed units. Newly formed habitable rooms above ground floor level to be provided with a fire escape window complying with Part B1 of the Building Regulations giving minimum opening area of 0.33m sq, minimum opening width of 450mm with the bottom of the opening max 1100mm above FFL.

Glazing below 800mm above finished floor level and doors below 1500mm including side lights within 300mm horizontally to be fitted with laminated safety glass to BS 6206:1981, and 1500mm door/screen glazing.
Glazing to be installed in accordance with Part N of the Building Regulations.

All leadwork including valleys, abutment flashing, cavity trays, cover flashings supports, sheet leadwork etc to be installed in accordance with BS 6915 and BS EN 12568 1999:1178 and to good practice details and recommendations of the Lead Development Association. Code 5 lead roof covering (where applicable) in accordance with details in Lead Development Association. Code 4 lead cover stepped and abutment flashings as noted on drawings. Flashing to be chased into the mortar joints by 25mm, secured with lead wedges at 500mm c/c and pointed. Min lengths to be 15mm with 100mm min laps. Provide 50mm wide lead clips to top edge of upstands and turn over bottom edge of flashing to secure

Insulation to existing rafters in loft room to be 1 layer of 100mm Celotex FR4000 boarding or equal trimmed as required to friction fit between rafters with 1 layer of 37.5 mm Celotex PL4000 fitted to underside of rafters achieving U value of 0.18W/mK. Supply and fit 32 x 19mm softwood battens to sides of rafters to locate insulation boards and to maintain 50mm air gap. Plasterboard and skim ceiling finishes ready for decoration.

Insulation over ceiling joists to be 100mm mineral wool between joists and 170mm cross laid over to provide U value = 0.16W/mk

Staircase to have a maximum pitch of 42 degrees with equal rises divided between the levels. Rises to be max. of 220mm and going to be min of 200mm and a 2000mm min. clearance above pitch line. Handrails to be min 900mm at landing and above pitch line of stair. Max. spacing of balustrade 100mm and capable of withstanding 0.36kn of horizontal force

Flat roof to extension to comprise of 150mm x 50mm Class C24 joists at 400mm ccs. Joists to bear off cavity work and existing as indicated
Install min 125mm Coolag warm roof decking over joists and 25mm Kingspan between joists achieving 0.16 u value
Complete weathering with 3 layers breathable roofing felt coverings
All fascias to be in pvc cladding. Roof joist to be tied to walls with m.s. straps at max. ccs of 1800mm and roof to have min fall of 1:40
Internal ceilings to be min 12.5 p.b. with skim finish

New pitched roof in 100 x 50 rafters at 400ccs supporting tiles to match existing over breathable roofing felts. Install 270 depth quilt over ceilings as indicated.

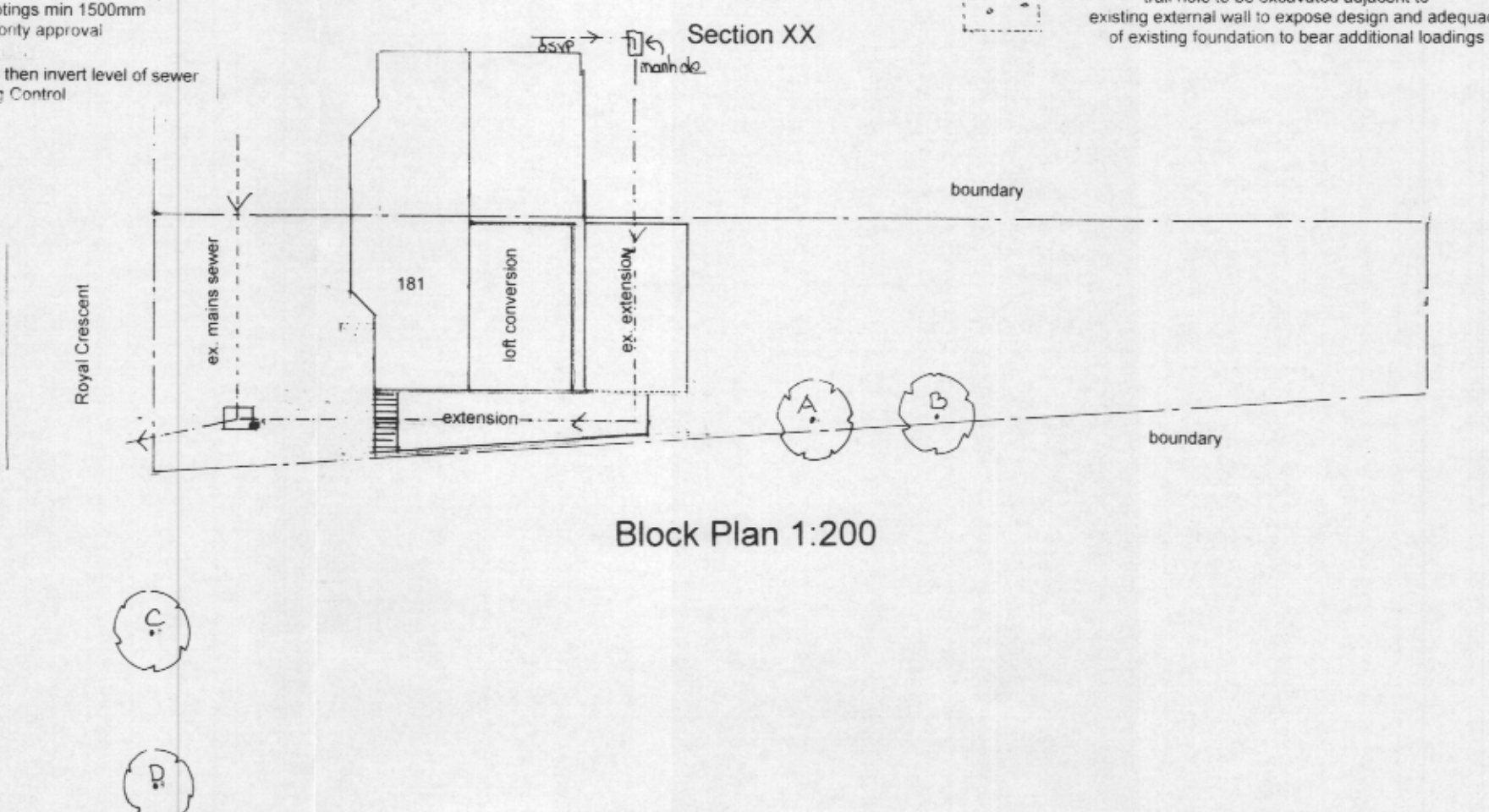
Confirmation that no activity on or near the site has contaminated the ground conditions.

Engineer calculation sheets to be submitted with application
All structural steelwork to be encased in min 30 minute fire line board

~~Proposed Side Extension~~ DELETE
~~Front Porch and~~ DELETE
Loft Conversion

Scale: 1:50
No. 529
Date 27th March 2014

Amended 8/8/47



Scale Bar 1:50

