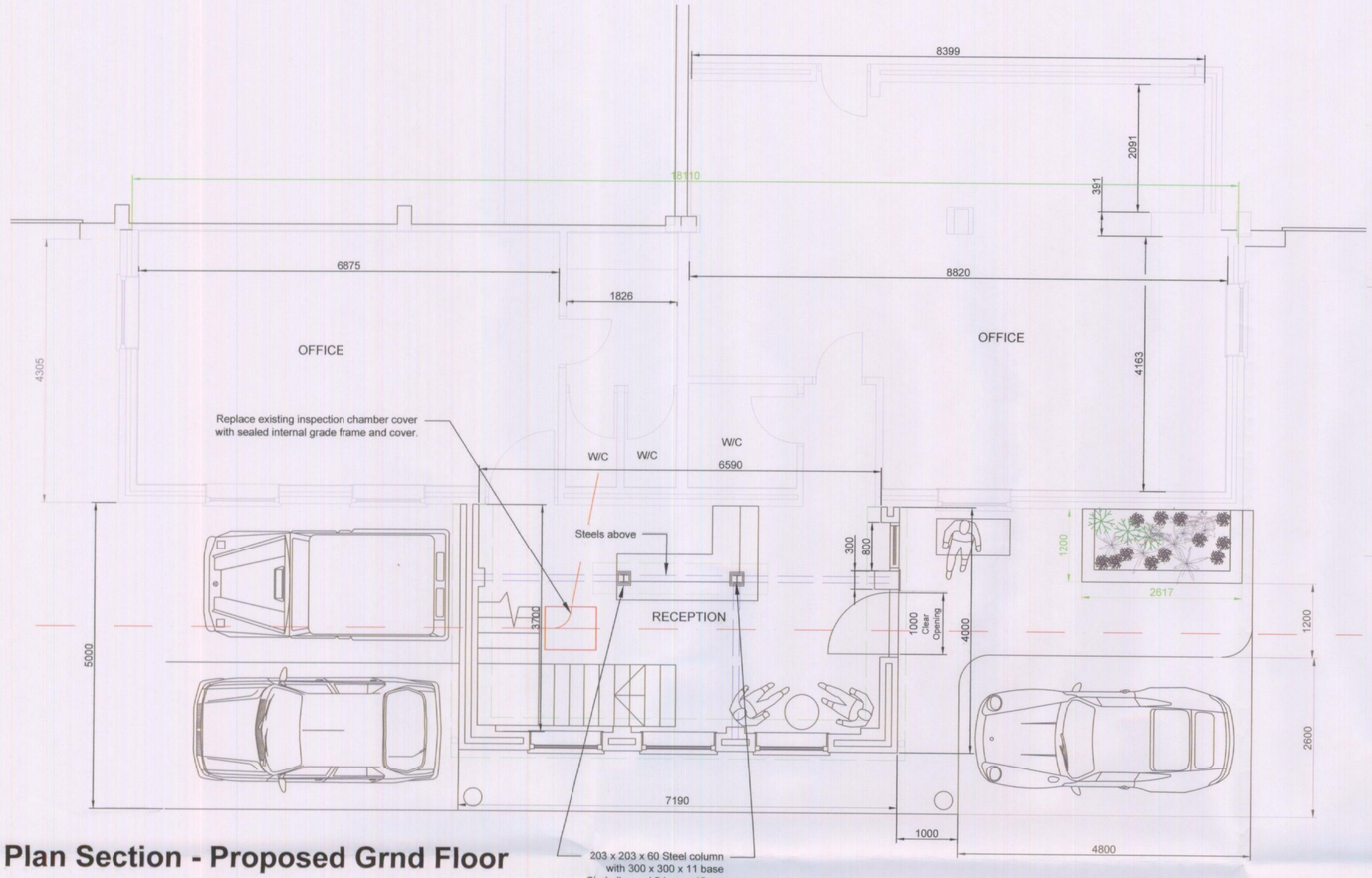
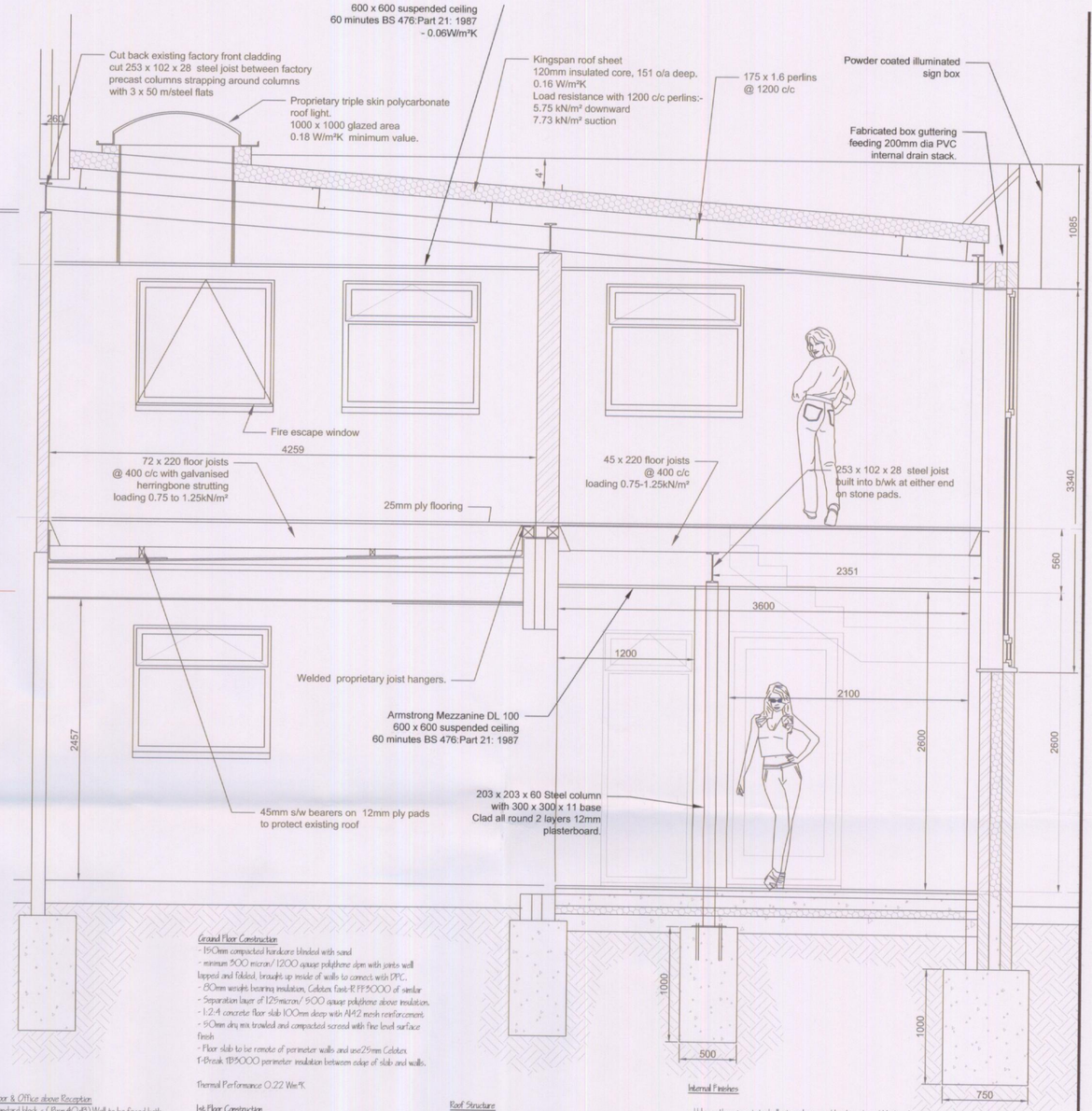
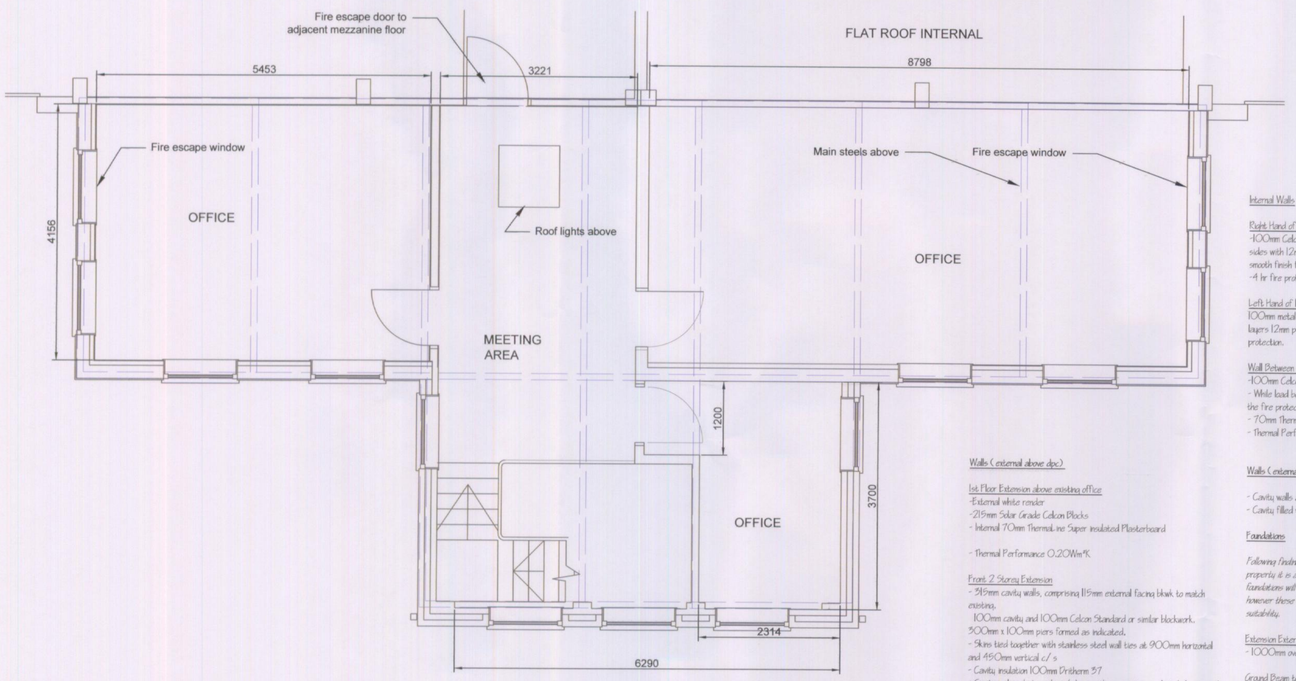


Plan Section - Proposed Grnd Floor

Scale 1:50





Plan Section - Proposed 1st Floor

Scale 1:50

Walls (external above dpc)

1st Floor Extension above existing office
-External white render
-215mm Solar Grade Celcon Blocks
- Internal 70mm Thermal-ine Super insulated Plasterboard

- Thermal Performance 0.20Wm²K

Front 2 Storey Extension
- 215mm cavity walls, comprising 115mm external facing blwk. to match existing.
100mm cavity and 100mm Celcon Standard or similar blockwork.
300mm x 100mm piers formed as indicated.
- Skins tied together with stainless steel wall ties at 900mm horizontal and 450mm vertical c/ s
- Cavity insulation 100mm Dritherm 37
- Cavities closed at windows/ doors with proprietary insulated closers and at head with block-on-edge.
- New walls tied to existing with stainless steel wall profiles
- Plasterboard on dabs internally

- Thermal performance : 0.28W/ m²K

Internal Walls

Right Hand of 1st floor & Office above Reception
-100mm Celcon standard block - (Rw=40dB) Wall to be faced both sides with 12mm taper edged plasterboard taped and filled to provide a smooth finish for painting.
-4 hr fire protection.

Left Hand of 1st Floor Office
100mm metal stud with 100mm rockwool insulation internally, faced two layers 12mm plasterboard with joints staggered offering 2 hr fire protection.

Wall Between New 1st Floor Office & Factory
-100mm Celcon standard block - (Rw=40dB
- While load bearing as the wall is spanned by a steel beam the fire protection would exceed 2 hrs.
- 70mm Thermal-ine Super insulated Plasterboard to office face
- Thermal Performance 0.24Wm²K

Walls (external below dpc)

- Cavity walls as previous (of skins of brickwork)
- Cavity filled with mortar below d.p.c.

Foundations

Following findings from recent 1st floor extension on adjacent property it is anticipated that the existing ground floor office foundations will be adequate to support a 1st floor extension. however these to be checked with trial pits to confirm suitability.

Extension External Walls
- 1000mm overall depth x 750mm wide 1:3:6 concrete

Ground Beam to Steels in Reception
-1000mm overall depth x 500mm wide 1:3:6 concrete

Surface Water Drainage
Noting that the existing site is complete concrete slab no additional loading would be placed on the existing drainage facilities.

Drainage From Roof of Extension

Ground Floor Construction
- 150mm compacted hardcore blinded with sand
- minimum 300 micron/ 1200 gauge polythene dpm with joints well lapped and folded, brought up inside of walls to connect with DPC.
- 80mm weight bearing insulation, Celotex Fast-R FR5000 of similar
- Separation layer of 125micron/ 500 gauge polythene above insulation.
- 1:2:4 concrete floor slab 100mm deep with A142 mesh reinforcement.
- 50mm dry mix trowled and compacted screed with fine level surface finish
- Floor slab to be remote of perimeter walls and use 25mm Celotex 1-Break TB5000 perimeter insulation between edge of slab and walls.

Thermal Performance 0.22 Wm²K

1st Floor Construction

Area Above Existing Offices -Floor
Integrity of existing office roof to be maintained throughout build .'. all contact points to be on minimum 12mm WBP ply spreaders to protect existing water proof coverings.

-72 x 220 floor joists at 400mm c/ c with galvanised herringbone strutting. (Loading rate 0.75- 1.25kN/ m²)
-Supported at either end on proprietary welded steel joist hangers built into new factory division wall and on timber wall pads above existing brickwork.
- Joists to be doubled, and bolted together, under new r/ hand internal wall line.
-25mm wbp plywood covering.

Front Extension -Floor
-253 x 102 x 28 steel beam laterally across building built into piers at either end.
- 2 N° 203 x 203 x 60 Steel columns with 300 x 300 x 11 base
- Columns clad all round 2 layers 12mm plasterboard.
- 253 x 102 x 28 steel beam from front to column/ beam junction built into pier on front wall.
-45 x 220 floor joists at 400mm c/ c(Loading rate 0.75- 1.25kN/ m²) -
-Supported at wall abutments with proprietary welded steel joist hangers.
- 25mm wbp plywood covering.
- Armstong "Mezzanine DL 100 600 x 600 suspended ceiling tiles to underside giving 60 minutes fire protection BS 476 Part 21: 1987.
- All exposed steel to be clad with minimum 2 x 12mm plasterboard.

Roof Coverings
-Kingspan roof sheet
120mm insulated core, 151 o/ a deep.
Load resistance with 1200 c/ c perlins:-
5.75 kN/ m² downward / 7.73 kN/ m² suction

Thermal performance 0.16 W/ m²K

Proprietary triple skin polycarbonate roof light.
1000 x 1000 glazed area

Roof Structure
- 253 x 102 x 28 steel beams cut between factory face columns and linked with 3 N° 50x6 m/ steel strap rings around columns.
- 253 x 102 x 28 steel beams forming ring beam to perimeter of 1st floor extension and front 2 storey extension.
- Beams as above forming rafters between ring beams.
- 175 x 1.6 proprietary steel perlins @ 1200 c/ c
- Lights well perimeter clad in two layers 12mm plasterboard.
- Armstong "Mezzanine DL 100 600 x 600 suspended ceiling tiles to underside giving 60 minutes fire protection BS 476:Part 21: 1987.

Windows
- Proprietary Upvc double glazed windows with 25mm argon filled cavities. Windows to include opening lights for natural ventilation and trickle vents - all to match existing in lock and dimension.
Sizes to be checked to match existing windows.
2 N° windows (1 N° to each longer 1st floor offices) to to allow full opening sashes for fire escape ladder access.

Minimum Thermal Performance 0.18 Wm²K

External Door
UPVC framed single glazed door providing minimum 1000mm wide clear opening. Integral 5 point locking system with escape latch and dead lock.

Internal Doors
Solid core flush doors in hardwood frames offering 60 fire protection.

Ventilation
Significant natural ventilation would be provided through trickle vents and opening lights.
Consideration to be given to forced mechanical ventilation, with heat recovery, considering a total supply to all offices (existing and proposed) would require a modest 450 lt/ sec flow.

Heating
- Split Ceiling Mounted cassette heating/ cooling units to 3 N° 1st floor offices and meeting room. Condensers mounted on brackets on North elevation below 1st floor extension windows.

Internal Finishes
- Unless otherwise stated all internal exposed brick work and blockwork be faced with 12mm plasterboard "dot & dab" bonded to face of wall
Boards to be taped, filled and sanded to provide a smooth finish for painting.
-119x19 tanus softwood skirting to be primed both sides prior to fixing.
-58x19 tanus softwood architraves ditto

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Support Services

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Hockley, Essex SS5 4UH
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PROJECT	Robert Stevens & Sons Ltd 2-4 Fleethall Rd Rochford Essex SS4 1NF
REF:	SCALE: As noted @ A1
DATE: 15/9/13	DRAWN: JNS CHECKED:
TITLE	PROPOSED OFFICE EXTENSION 2-4 Fleethall Rd, Rochford Section Details