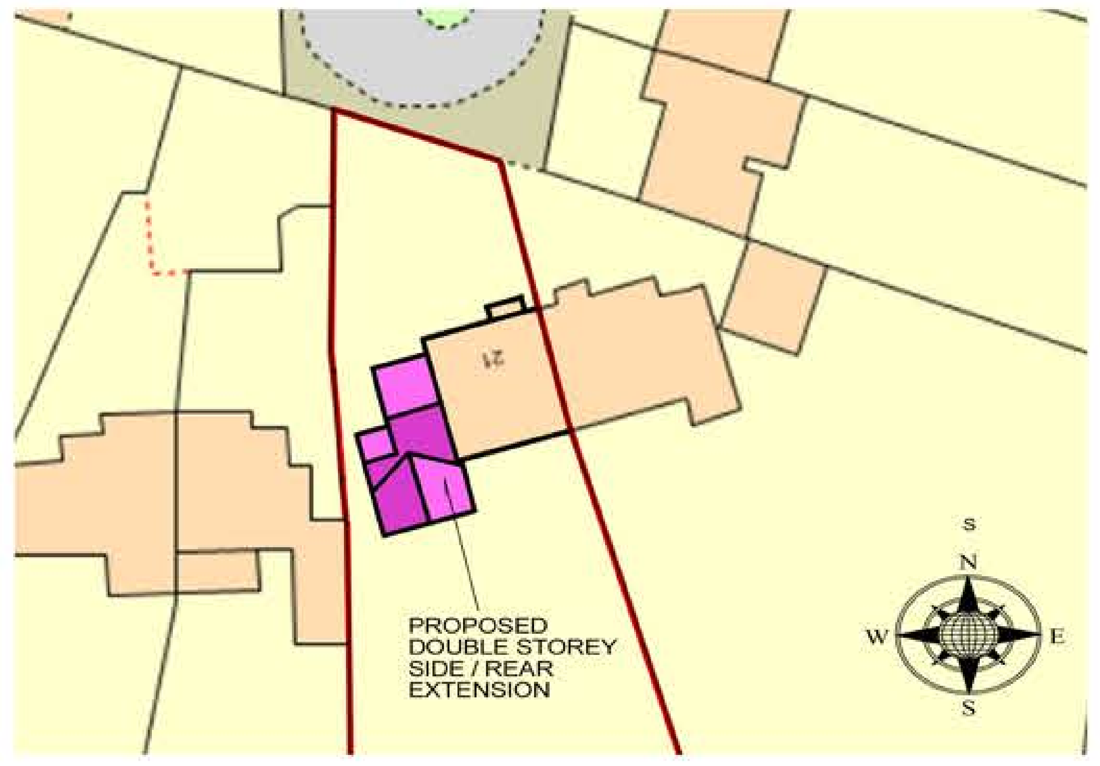
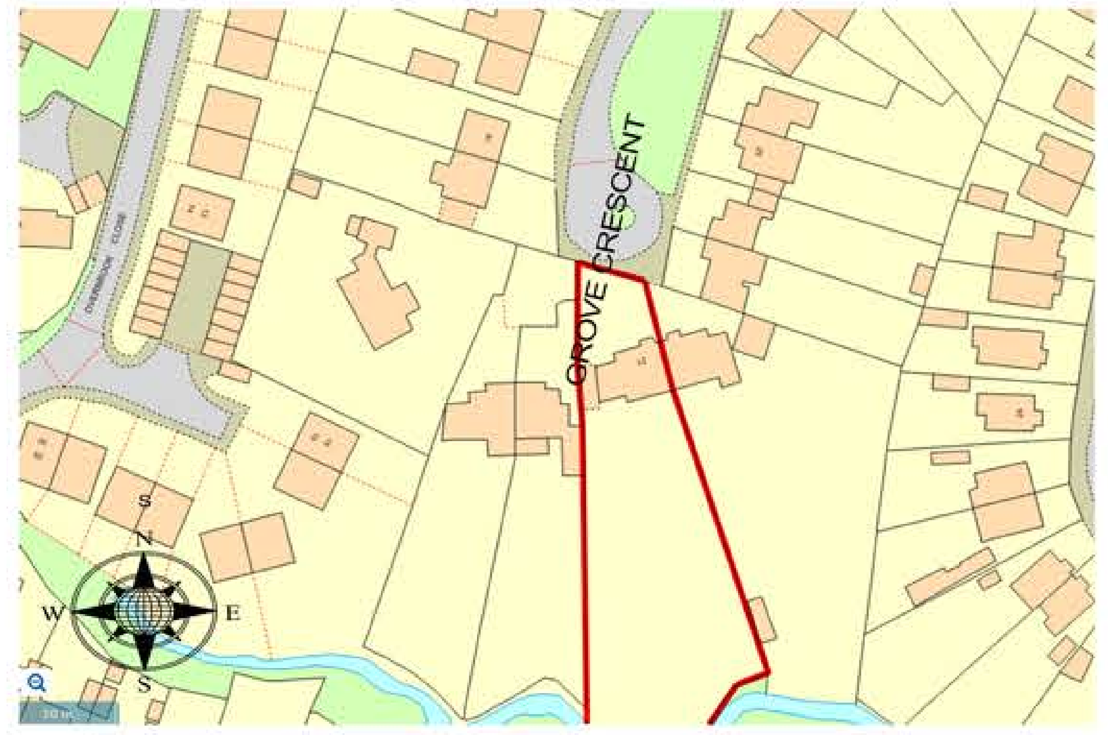
PROPOSED FRONT ELEVATION
NORTH 1:100

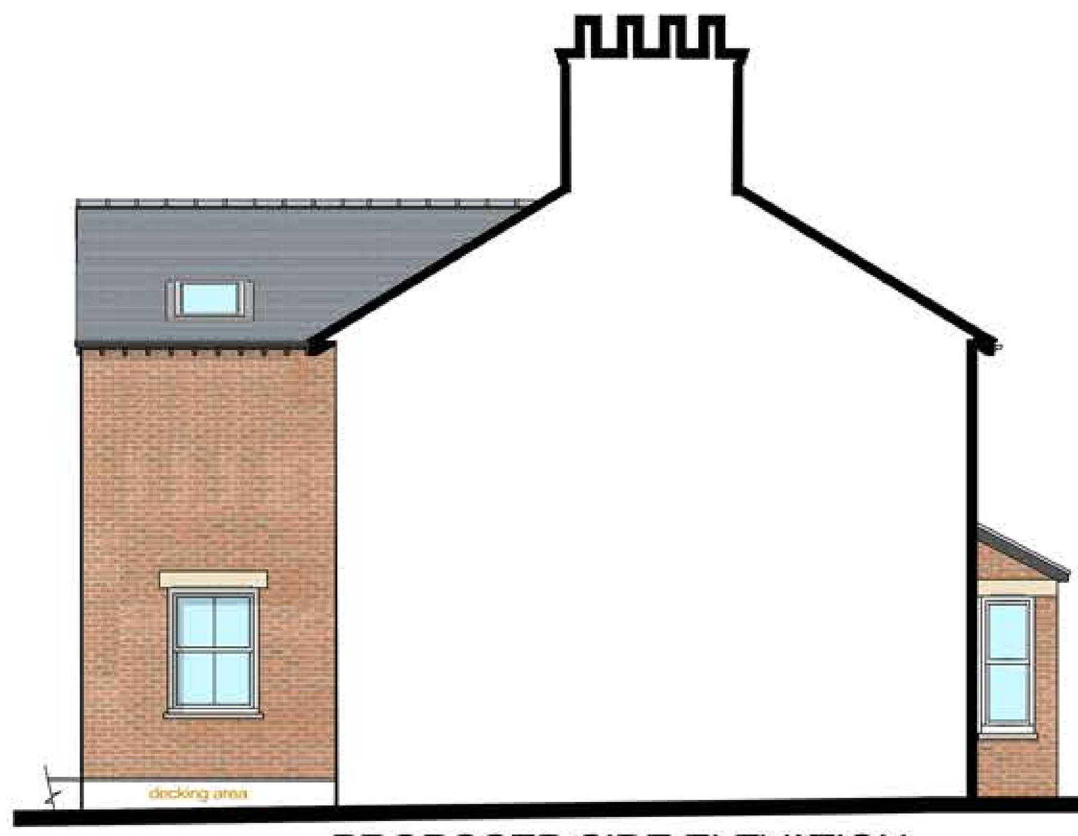
PROPOSED SIDE ELEVATION
WEST 1:100



PROPOSED BLOCK PLAN 1:500



SITE LOCATION 1:1250



PROPOSED SIDE ELEVATION
EAST 1:100

PROPOSED REAR ELEVATION
SOUTH 1:100

U-Value Table highlighting changes as of June 2022

Note: New thermal elements may need higher values if you have more than 25% glazing.

THERMAL ELEMENT	OLD U-VALUE	NEW U-VALUE
New Floors	0.22 W/m²K	0.18 W/m²K
Retained Floors	0.25 W/m²K	0.25 W/m²K
New Cavity Walls	0.28 W/m²K	0.18 W/m²K
Retained Cavity Walls	0.55 W/m²K	0.55 W/m²K
Retained Solid Walls 9"	0.3 W/m²K	0.3 W/m²K
Retained Single Skin Walls 4"	0.3 W/m²K	0.3 W/m²K
Timber Frame Walls	0.28 W/m²K	0.18 W/m²K
Pitched Roof (Flat Ceiling)	0.16 W/m²K	0.15 W/m²K
Pitched Roof (Vaulted Ceiling)	0.18 W/m²K	0.15 W/m²K
Flat Roof (Cold Deck)	0.18 W/m²K	0.15 W/m²K
Flat Roof (Warm Deck)	0.18 W/m²K	0.15 W/m²K
Retained Roof Upgrades Flat Roof Flat Ceiling Vaulted	 0.18 W/m²K 0.16 W/m²K 0.18 W/m²K	 0.16 W/m²K 0.16 W/m²K 0.18 W/m²K
Windows	1.6 W/m²K	1.4 W/m²K
External Doors >60% Glazing	1.8 W/m²K Band E	1.4 W/m²K Band C
Other External Doors	1.8 W/m²K Band E	1.4 W/m²K ~~Band B~~
Roof Light	1.6 W/m²K	2.2 W/m²K (subject to change)

NEW BUILDING REGULATIONS

Ground floor U-Value guidance - Extensions and alterations

Below is a table of examples of insulation products that can be used to achieve the new U-Values in Approved Document L as of June 2022.

This is based upon traditional oversites and beam and block floors with a P/A ratio of 1, insulation thickness may be reduced if the P/A ratio is lower, but calculations may be required.

The values below will suffice in most circumstances, with insulation either above or below the concrete slab and in floating floor scenarios.

It is now a requirement to provide a 25mm perimeter upstand of PIR insulation as standard, with the exception of floating floors.

Table 1- Minimum U-value now required 0.18W/m²K

Product	Thickness
Celotex GA4000	100mm
Recticel Eurothane Gp	100mm
Jabfloor insulation	100mm + 60mm
Ecotherm Eco-Versal	100mm
Kingspan K103	100mm

Note: To offset additional glazing, PIR insulation thickness in the floor is more likely to be specified / required to be **150mm on most jobs**, rather than the 100mm. This is because it's more cost effective than upping wall thickness etc. Timber floors may be better to insulate as a floating floor however for insulating between joists see examples below.

Table 2- examples of suspended timber floor. Minimum U-value now required 0.18W/m²K

Product	Thickness
Celotex XR4000 150mm between 150mm Timber Joists at 400cc	Rockwool Flexi 200mm between timber joists. 200mm Joists required

Cavity Wall Guidance – Extensions and alterations

Cavity walls

Below are tables of examples of insulation products that can be used to achieve the new U-Values in Approved Document L as of June 2022.

This is based on a 'standard' cavity construction wall detail with a brick outer leaf and a block inner leaf. In most instances the cavity will now be greater than 100mm unless a suitable PIR cavity insulation board is used.

Please see key for ease - this includes some but not all products that can be used. specialist advice from architects, energy assessors and manufacturers may be required.

Table 1 -U-Value now required 0.18W/m²K

Cavity width	Detail
100mm	Brickwork, 100mm cavity full fill insulation with an insulation with a thermal conductivity of **0.021 W/mK**, 100 blockwork inner leaf with a thermal conductivity of **0.15 W/mK** 12.5mm plasterboard finish.
100mm	Brickwork, 100mm cavity full fill insulation with an insulation with a thermal conductivity **0.032 W/mK** , 100 mm blockwork with a thermal conductivity of **0.15 W/mK** and a 52.2 insulated PIR plasterboard finish (40mm PIR + 12.5mm plasterboard).
150mm	Brickwork, 150mm cavity insulated with an insulation of thermal conductivity **0.032 W/mK**, 100 mm blockwork with a thermal conductivity of **0.15 W/mK** 12.5mm plasterboard finish.
150mm	Brickwork, 150mm cavity insulated with an insulation of thermal conductivity **0.032 W/mK**, 150 mm blockwork with a thermal conductivity of **0.15 W/mK** 12.5mm plasterboard finish.
150 mm	Brickwork, 150mm cavity partial filled with 100mm insulation with an insulation of thermal conductivity **0.022 W/mK**, 150 mm blockwork with a thermal conductivity of **0.15 W/mK** 12.5mm plasterboard finish.
175mm	Brickwork, 175 mm cavity insulated with an insulation of thermal conductivity **0.037 W/mK** (Knauf/ Dritherm 37) 100 mm blockwork with a thermal conductivity of **0.15 W/mK** plasterboard finish.
180mm	Brickwork, 180mm cavity full fill insulation with Rockwool full fill cavity batts **0.037 W/mK** , 100mm of blockwork with a thermal conductivity up to 1.130 W/mK (Even dense concrete blocks achieve this).

Table 2 – Key for common construction products used

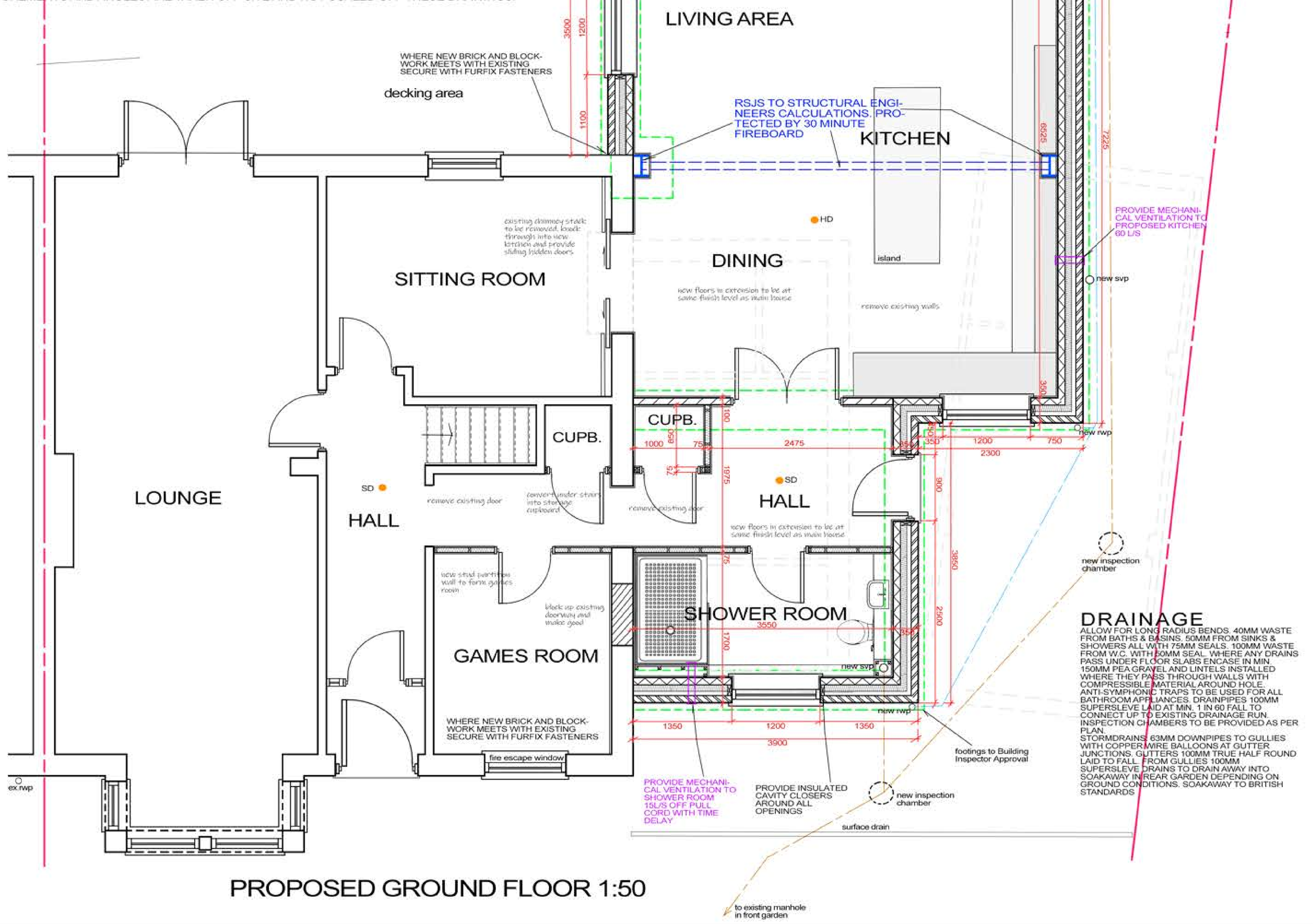
0.15W/mK blocks or better	Cavity insulation 0.02 W/mK	Cavity insulation 0.032 W/mK	Cavity insulation 0.037 W/mK
Celcon Solar. Celcon Standard. Durox Supablock Durox SupaBlock 400 Thermalite shield Thermalite Turbo Topblok supa bloc Toplite standard	Recticel Euro wall Celotex CW4000 All will be PIR partial / full fill cavity wall systems and workmanship will need to be impeccable.	Dritherm 32 Cavity Batts Please note most other cavity wall insulations do not achieve the same value as Dritherm 32, even other Dritherm products like 34 etc.	Rockwool Cavity batts Other Dritherm products

Note: Changing blocks/insulation brands may require a designer's recalculation especially where insulation is specified to offset glazing. Use of denser blocks can have a serious effect on U-value and may require more insulation if they are required for structural stability.

NOTE

THE CONTRACTOR IS TO CHECK AND VERIFY ALL BULIDING AND SITE DIMENSIONS, LEVELS AND SEWER INVERT LEVELS AT CONNECTION POINTS BEFORE WORK STARTS.
THE CONTRACTOR IS TO COMPLY IN ALLASPECTS WITH CURRENT BUILDING LEGISLATION - BRITISH STANDARDS SPECIFICATIONS, BUILDING REGULATIONS ETC. WHETHER OR NOT SPECIALLY STATED ON THIS DRAWING. THIS DRAWING MUST BE READ WITH AND CHECKED AGAINST ANY STRUCTURAL, GEOTECHNICAL OR OTHER SPECIALIST DOCUMENTATION. THIS DRAWING IS NOT INTENDED TO SHOW DEATAILS OF FOUNDATIONS, GROUND CONDITIONS OR GROUND CONTAMINANTS. THE CONTRACTOR WILL INVESTIGATE THE BUILDING AREA AND A SUITABLE METHOD OF FOUNDATION FOR THE WHOLE BUILD SHOULD BE PROVIDED ALLOWING FOR EXISTING GROUND CONDITIONS. ANY SUSPECT GROUND CONDITIONS SHOULD BE FURTHER INVESTIGATED BY A SUITABLE EXPERT.

WHERE ANY BUILDING MATERIALS NEED TO BE PRODUCED OFF SITE. I,E TRUSS RAFTERS. ENSURE ALL MEASUREMENTS AND ANGLES ARE TAKEN OFF SITE AND NOT SCALED OFF THESE DRAWINGS.



DRAINAGE

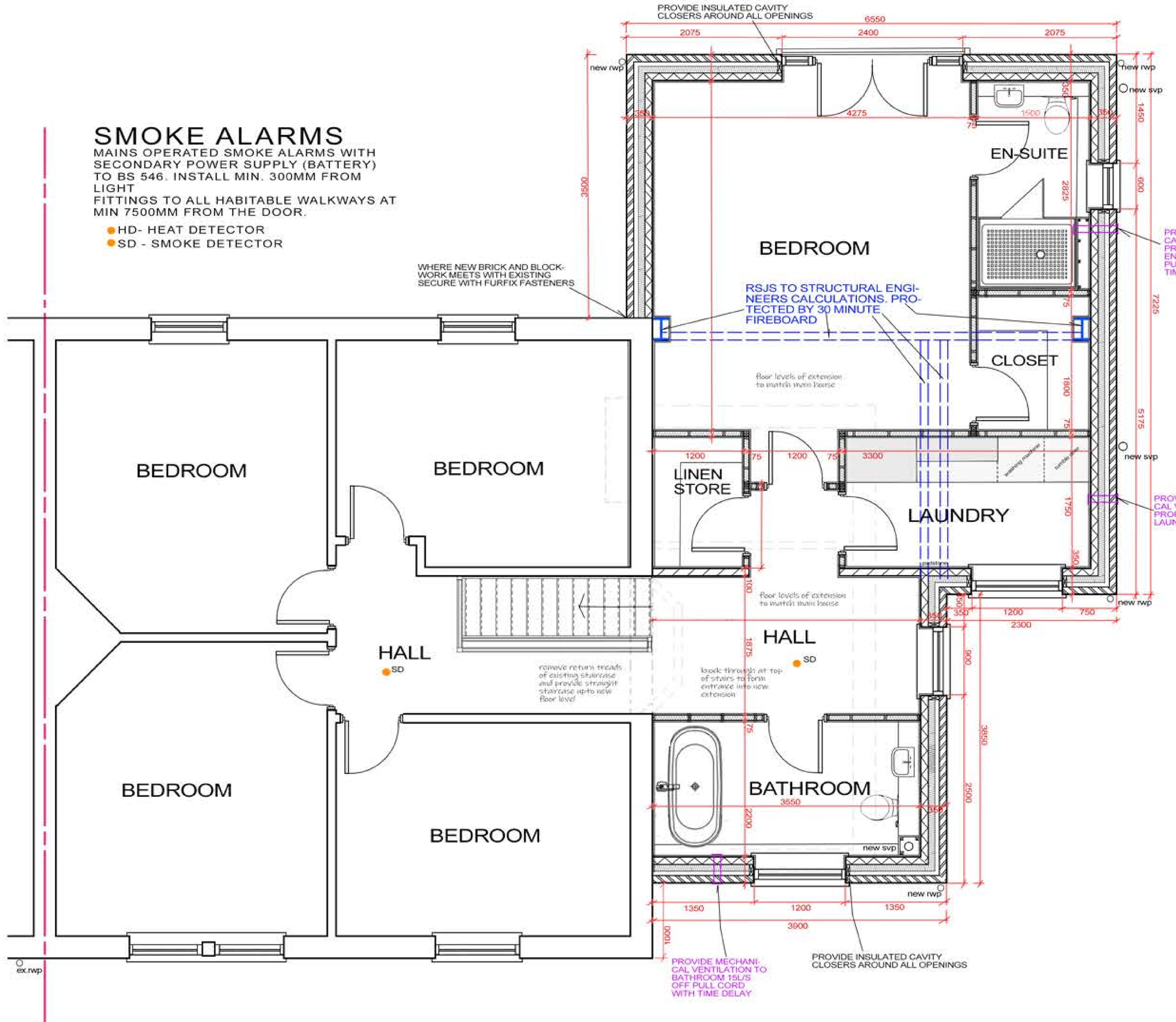
ALLOW FOR LONG RADIUS BENDS. 40MM WASTE FROM BATHS & BASINS. 50MM FROM SINKS & SHOWERS ALL WITH 75MM SEALS. 100MM WASTE FROM W.C. WITH 50MM SEAL. WHERE ANY DRAINS PASS UNDER FLOOR SLABS ENCASE IN MIN. 150MM PEA GRAVEL AND LINTELS INSTALLED WHERE THEY PASS THROUGH WALLS WITH COMPRESSIBLE MATERIAL AROUND HOLE. ANTI-SYMPHONIC TRAPS TO BE USED FOR ALL BATHROOM APPLIANCES. DRAINPIPES 100MM SUPERSLEVE LAID AT MIN. 1 IN 60 FALL TO CONNECT UP TO EXISTING DRAINAGE RUN. INSPECTION CHAMBERS TO BE PROVIDED AS PER PLAN.
STORMDRAINS: 63MM DOWNPIPES TO GULLIES WITH COPPER WIRE BALLOONS AT GUTTER JUNCTIONS. GUTTERS 100MM TRUE HALF ROUND LAID TO FALL. FROM GULLIES 100MM SUPERSLEVE DRAINS TO DRAIN AWAY INTO SOAKAWAY IN REAR GARDEN DEPENDING ON GROUND CONDITIONS. SOAKAWAY TO BRITISH STANDARDS

PROPOSED GROUND FLOOR 1:50

SMOKE ALARMS

MAINS OPERATED SMOKE ALARMS WITH SECONDARY POWER SUPPLY (BATTERY) TO BS 546. INSTALL MIN. 300MM FROM LIGHT
FITTINGS TO ALL HABITABLE WALKWAYS AT MIN 7500MM FROM THE DOOR.

- HD- HEAT DETECTOR
- SD - SMOKE DETECTOR



PROPOSED FIRST FLOOR 1:50

rev a - removal of side window and setting back extension from the front

RV Architectural Services

[redacted]

Client: SIMON GILLINGS

Job Title: DOUBLE STOREY SIDE/ REAR EXTENSION TO NO. 21 GROVE CRESCENT, BARNWOOD, GLOUCESTER.

Dwg Title: PROPOSED PLANS AND ELEVATIONS
SITE AND BLOCK PLAN

Scale: 1:50 1:100 1:1250 1:500

Date:

Dwg No. SG002 rev a