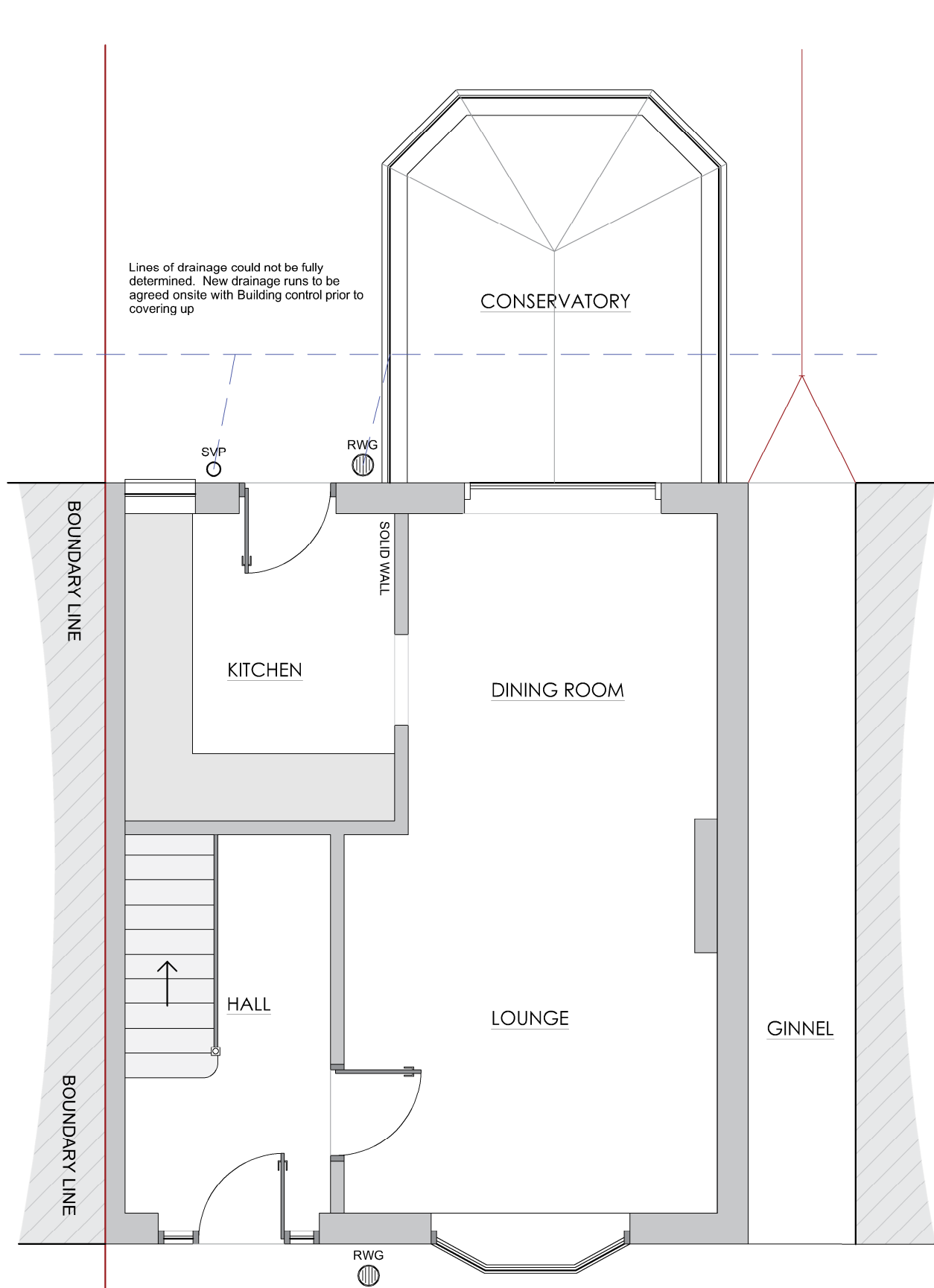
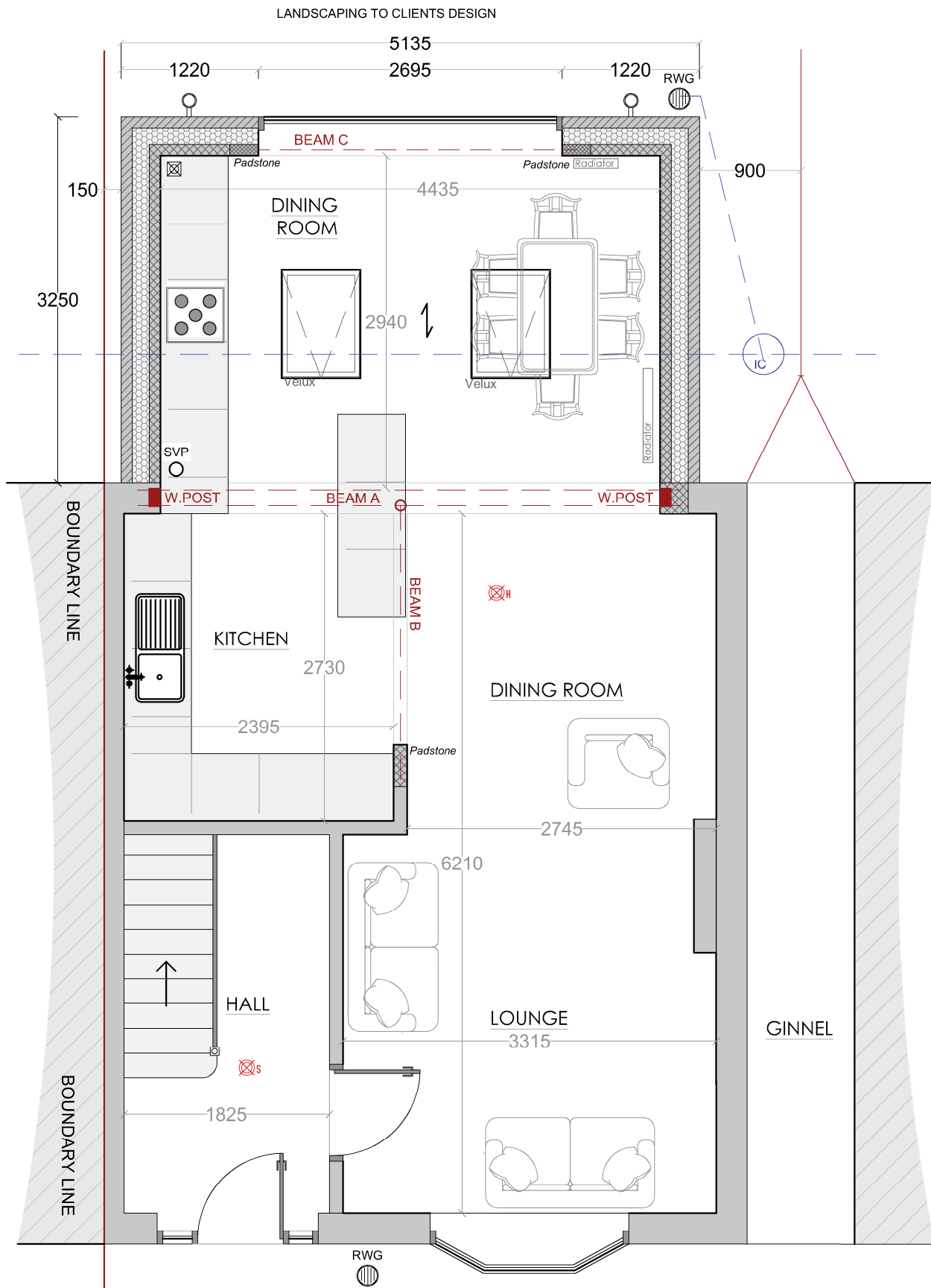
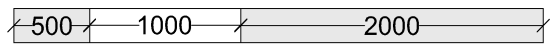




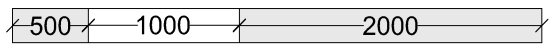
EXISTING GROUND FLOOR (Scale 1:50)

SCALE BAR - (mm)



PROPOSED GROUND FLOOR (Scale 1:50)

SCALE BAR - (mm)



New Minimum Thermal Elements  
Wall Insulation - 0.18W/m<sup>2</sup>K  
Roof Insulation - 0.15W/m<sup>2</sup>K  
Floor Insulation - 0.15W/m<sup>2</sup>K  
Windows & Doors - 1.4W/m<sup>2</sup>K  
GARAGE DOES NOT NEED TO BE INSULATED  
See Specifications & Details L18 - CONSERVATION OF FUEL AND POWER IN EXISTING DWELLINGS

VAULTED ROOFS - MINIMUM PITCH 15°

TIMBER SIZES: 47 x 200 C16 @ 400 Centres  
Timbers to be doubled up around any valleys  
U-VALUE: 0.18W/m<sup>2</sup>K Minimum  
BETWEEN - Kooltherm Pichee Roof Board (120mm)  
UNDER - K118 Kooltherm K7 Insulated Plasterboard\*\* (32.5mm)  
ROOF FILES: To be suitable for final roof pitch  
MEMBRANE: Suitable Breathable membrane - Kingspan Nivert

- Smoke Detector & Sounder
- Heat Detector & Sounder
- New Steelwork / Trimmers
- Extract fan
- External Lighting

New sockets and spot lights to owners design - Part M  
Lines of drainage could not be fully determined. New drainage runs to be agreed onsite with Building Control prior to covering up  
30 Minutes Structural Protection Minimum  
Final room layouts: Kitchens, Bathrooms, WC's to be decided by owners.

New and altered structural elements such as steelwork and bearings must be designed by a qualified structural engineer and complete calculations are to be provided justifying adequacy. Existing foundations to be assessed by SCD for suitability.

GLAZING JUSTIFICATION

8.125m<sup>2</sup> Removed Glazing  
3.27m<sup>2</sup> - 25% Floor area  
TOTAL 11.395m<sup>2</sup>

New Bifolds 5.65m<sup>2</sup>

Velux 0.7m<sup>2</sup>

Velux 0.7m<sup>2</sup>

Velux 0.7m<sup>2</sup>

Proposed Glazing area 7.05m<sup>2</sup>

4.345m<sup>2</sup> Under allowance



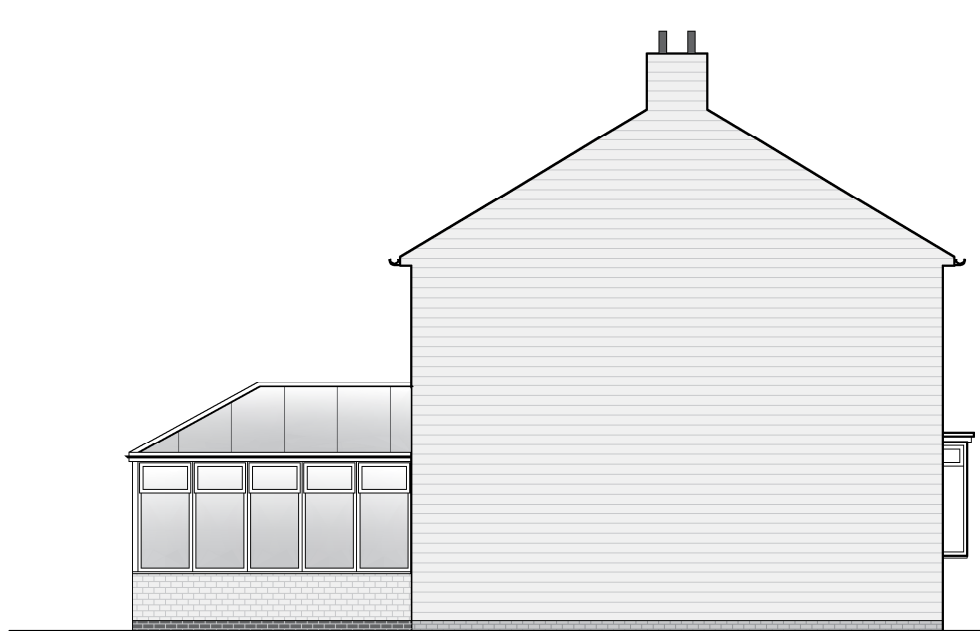
EXISTING FRONT ELEVATION (Scale 1:100)

SCALE BAR - (mm)



EXISTING REAR ELEVATION (Scale 1:100)

SCALE BAR - (mm)



EXISTING SIDE ELEVATION (Scale 1:100)

SCALE BAR - (mm)



EXISTING SIDE ELEVATION (Scale 1:100)

SCALE BAR - (mm)



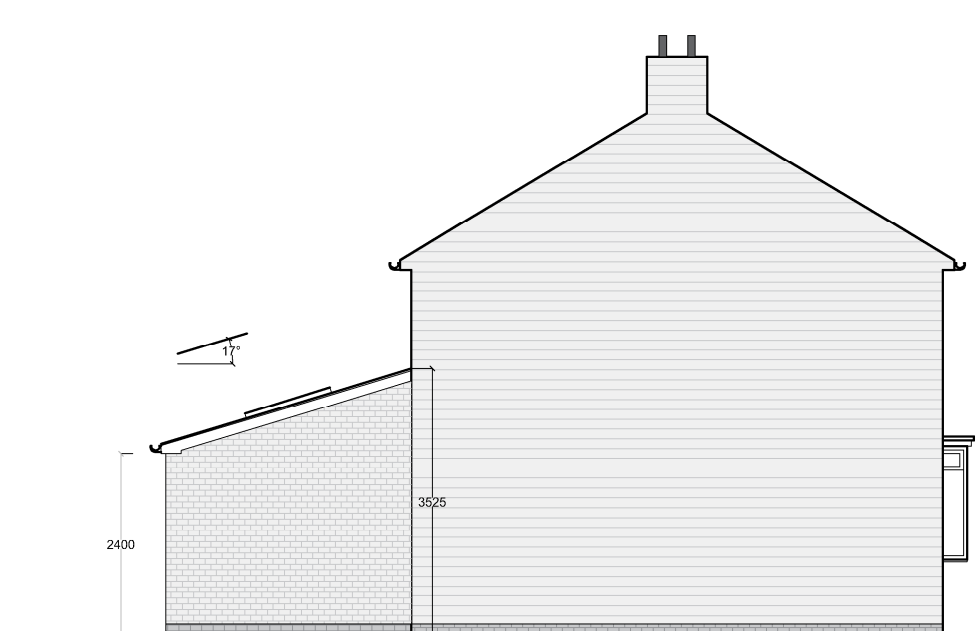
PROPOSED FRONT ELEVATION (Scale 1:100)

SCALE BAR - (mm)



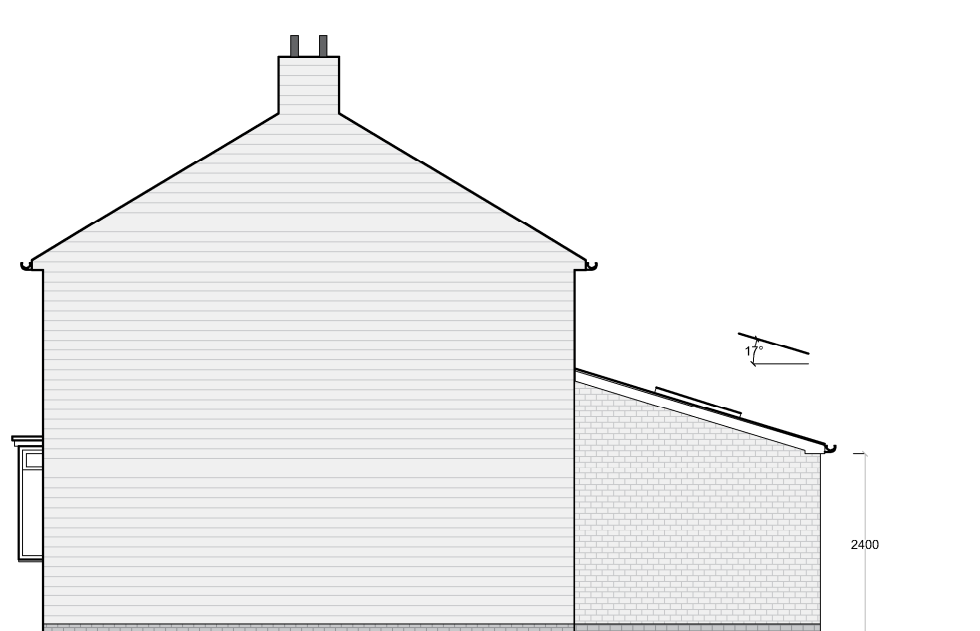
PROPOSED REAR ELEVATION (Scale 1:100)

SCALE BAR - (mm)



PROPOSED SIDE ELEVATION (Scale 1:100)

SCALE BAR - (mm)



PROPOSED SIDE ELEVATION (Scale 1:100)

SCALE BAR - (mm)

VAULTED ROOFS

MINIMUM PITCH 15°

U-VALUE: 0.15W/m<sup>2</sup>K Minimum

1. BETWEEN - Kingspan K107 (120mm)

2. UNDER - K118 Kooltherm K7 Insulated Plasterboard\*\* (32.5mm)

FLOOR SLAB 0.18w/m2K

KINGSPAN TF70 - 100mm

Partially Filled Insulation Between Rafters - No Sarking Board

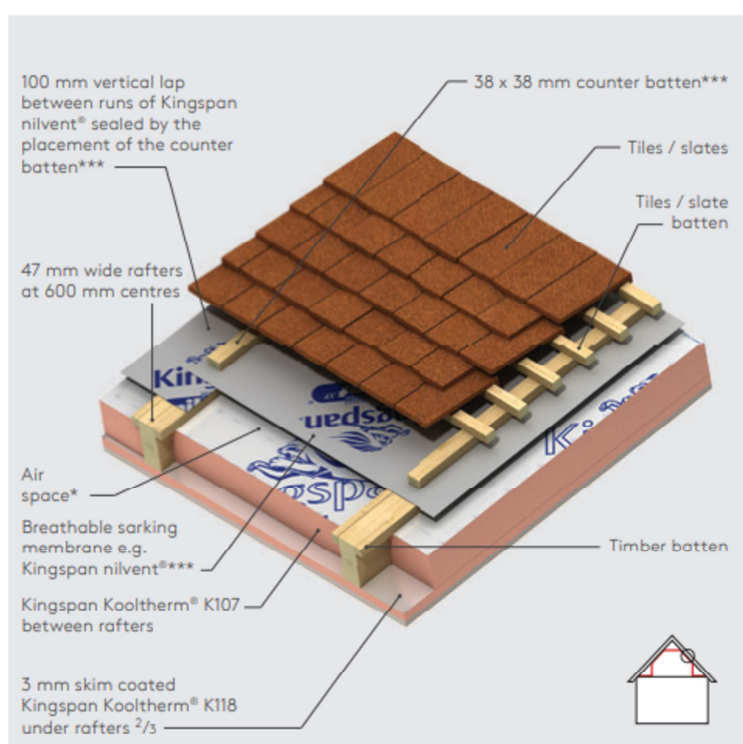


Figure 1c

U-values (W/m<sup>2</sup>K) for Various Thicknesses of Kingspan Kooltherm® K118 Assuming Rafters of Depth Shown Partially Filled with Kingspan Kooltherm® K107

| Thickness of Kingspan Kooltherm® K107 (mm) | Product Thickness of Kingspan Kooltherm® K118** (mm) |      |      |
|--------------------------------------------|------------------------------------------------------|------|------|
|                                            | 32.5                                                 | 57.5 | 72.5 |
| 150 mm Deep Rafters                        |                                                      |      |      |
| 45                                         | x                                                    | 0.19 | 0.15 |
| 50                                         | 0.25                                                 | 0.19 | 0.15 |
| 55                                         | 0.24                                                 | 0.18 | 0.15 |
| 60                                         | 0.23                                                 | 0.17 | 0.15 |
| 65                                         | 0.22                                                 | 0.17 | 0.15 |
| 70                                         | 0.21                                                 | 0.16 | 0.14 |
| 75                                         | 0.20                                                 | 0.16 | 0.14 |
| 80                                         | 0.19                                                 | 0.15 | 0.13 |
| 90                                         | 0.18                                                 | 0.14 | 0.13 |
| 100                                        | 0.17                                                 | 0.14 | 0.12 |
| 110                                        | 0.16                                                 | 0.13 | 0.12 |
| 120                                        | 0.15                                                 | 0.12 | 0.11 |
| 125                                        | 0.15                                                 | 0.12 | 0.11 |

\* A minimum 13 mm air space must be maintained above the insulation in order to claim the maximum thermal resistance in the cavity.

\*\* Product thickness = Insulant thickness + 12.5 mm plasterboard.

\*\*\* If sealing the roof is deemed to be unimportant, it is possible to lay the breathable membrane in horizontal runs, draped between rafters. This negates the requirement for counter battens. The U-values shown above remain valid.

NB Refer to local distributor or Kingspan Insulation price list for current stock and non-stock sizes.

Solid concrete ground based floors

Insulation below the floor slab

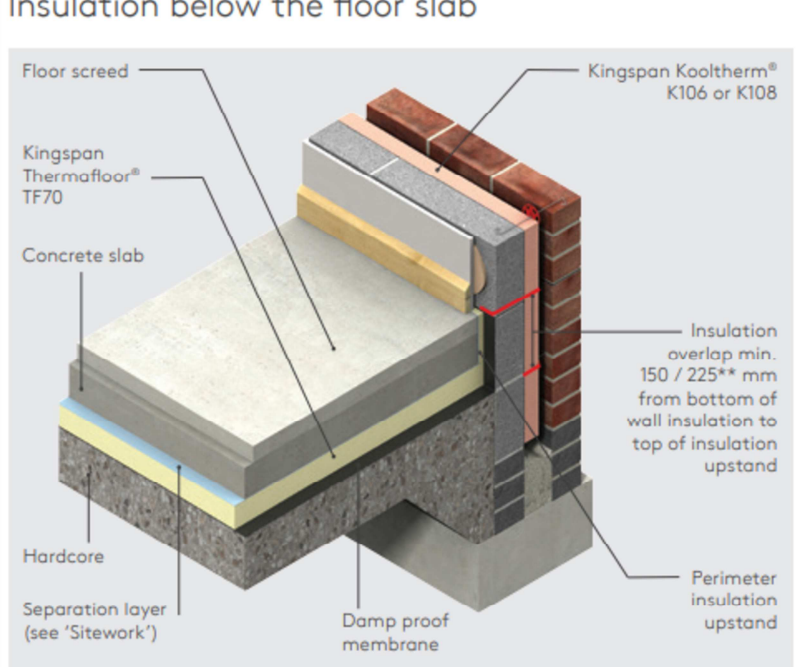


Figure 5

U-values (W/m<sup>2</sup>K) for various thicknesses of Kingspan Thermafloor® TF70 and floor perimeter / area ratios

| Insulant thickness (mm) | Perimeter / area (m <sup>2</sup> ) |      |      |      |      |      |
|-------------------------|------------------------------------|------|------|------|------|------|
|                         | 0.2                                | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  |
| 30                      | x                                  | x    | x    | x    | x    | x    |
| 40                      | 0.23                               | x    | x    | x    | x    | x    |
| 50                      | 0.20                               | 0.24 | x    | x    | x    | x    |
| 60                      | 0.19                               | 0.21 | 0.23 | 0.24 | x    | x    |
| 70                      | 0.17                               | 0.19 | 0.21 | 0.22 | 0.22 | 0.23 |
| 75                      | 0.16                               | 0.18 | 0.20 | 0.21 | 0.21 | 0.22 |
| 80                      | 0.16                               | 0.18 | 0.19 | 0.20 | 0.20 | 0.21 |
| 90                      | 0.15                               | 0.16 | 0.17 | 0.18 | 0.19 | 0.19 |
| 100                     | 0.14                               | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 |
| 110                     | 0.13                               | 0.14 | 0.15 | 0.16 | 0.16 | 0.16 |

Installer will refer to manufacturers technical information for further installation details and information

1:1250 Location Plan



ALL WORKS TO BE UNDERTAKEN TO LATEST BUILDING REGULATIONS, BRITISH STANDARDS AND MANUFACTURERS RECOMMENDATIONS

TOWN AND COUNTRY PLANNING ACT 1990 - Advice to be taken from the Local Authority by Client. Full planning permission should be applied for and obtained by the owners Prior to work commencing

BUILDING REGULATIONS APPROVAL - is required for this project. The contractor must provide the appointed Building Control body with all statutory notices for inspections and must liaise with the statutory undertakers and comply with their requirements.

PARTY WALL ACT - Prior to commencing work the builder/owners shall ensure that neighbors have been given notice under the Party Wall Act 1996.

CDM REGULATIONS 2015 - The contractor/builder shall be fully aware of the latest Construction (Design and Management) Regulations 2015. The contractor shall notify the Health and Safety Executive where required.

GENERAL - All dimensions given whether figured or scaled are to be checked and verified on site by the contractor prior to commencement of work. Figured dimensions are to take preference over scaled dimensions.

| PURPOSE                                |                                                                            | SITE ADDRESS                                 |                         |
|----------------------------------------|----------------------------------------------------------------------------|----------------------------------------------|-------------------------|
| Planning and Building Regulations Only |                                                                            | 34 Longborough Rd, Knowsley, Prescot L34 0ED |                         |
| WORK                                   | Erection of Single storey rear extension to dwellinghouse                  | Number                                       | REVISION                |
|                                        |                                                                            | 1                                            | C                       |
| DRAWING                                | Existing Floor Plans and elevations<br>Proposed Floor Plans and elevations | SCALE 1 - A1                                 | SCALE 2 - A1 Elevations |
|                                        |                                                                            | 1:50                                         | 1:100                   |