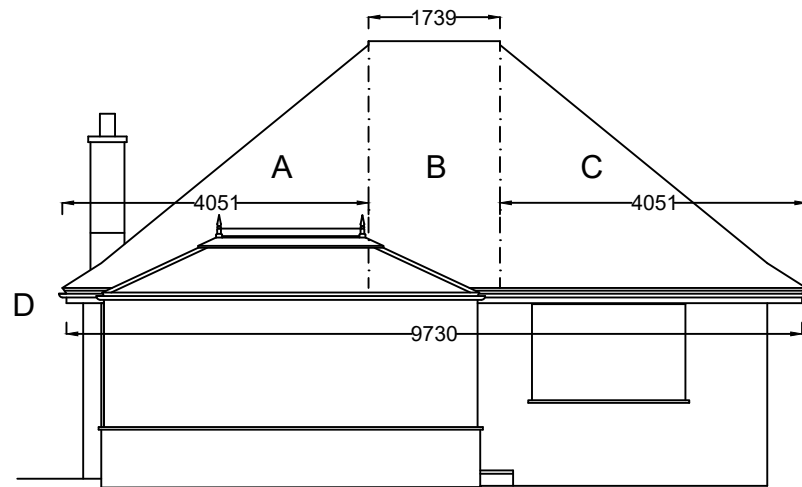
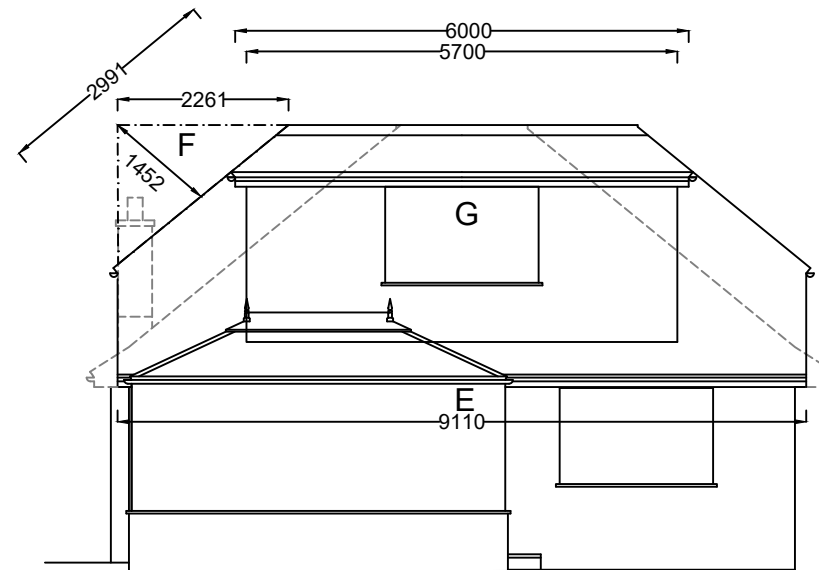
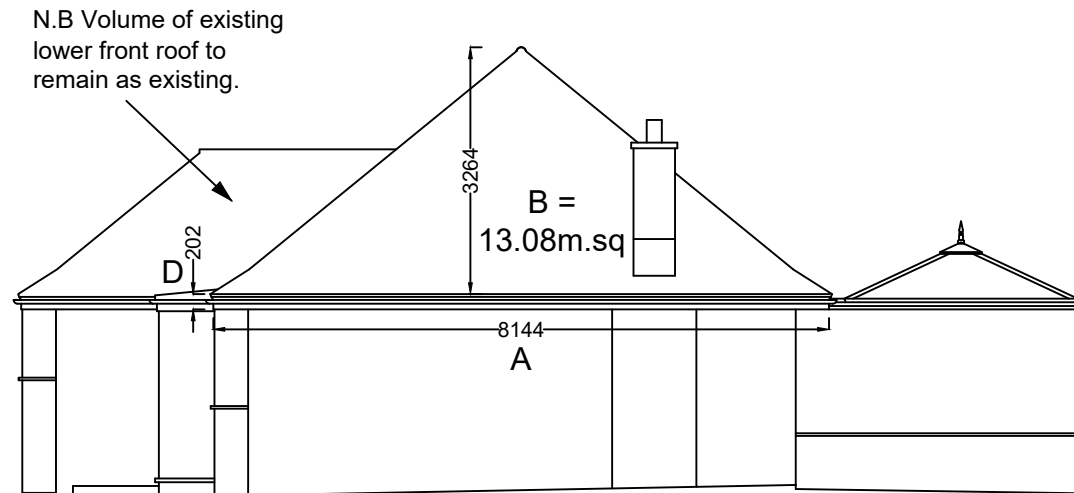




Existing Roof



Proposed Roof



Volume of Existing Main Roof

Volume of A + C =

$$V = \frac{LWH}{3}$$

$$\frac{(4.051 + 4.051) \times 8.108 \times 8.224 \times 3.264}{3} = 72.54 \text{m.cu}$$

Volume of B =

Area x Length =

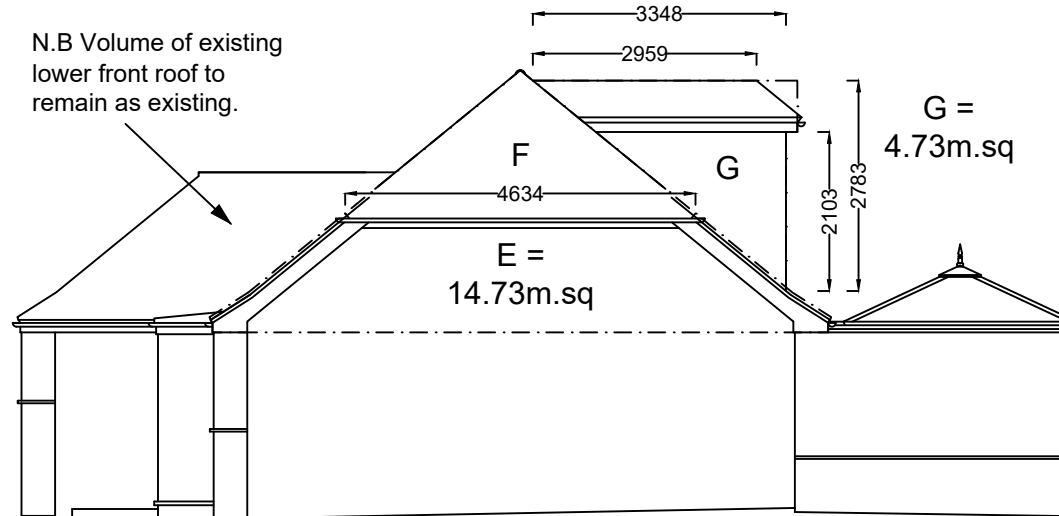
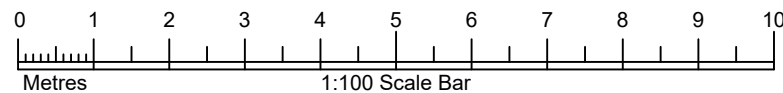
$$13.08 \text{m.sq} \times 1.739 \text{m} = 22.74 \text{m.cu}$$

Volume of D (Eaves) =

Length x Width x Height =

$$9.73 \text{m} \times 8.14 \text{m} \times 0.202 \text{m} = 15.99 \text{m.cu}$$

Total Existing Volume of Main Roof = 111.27m.cu



Volume of Proposed Main Roof

Total Volume of E - Hip to Gable Roof =

$$\text{Area} \times \text{Length} = 14.73 \text{m.sq} \times 9.11 \text{m} = 134.19 \text{m.cu}$$

Less Volume of F =

3 sided triangle = $\frac{1}{3} \times A \times H$

$$A = \frac{1}{2} (bh) = \frac{1}{2} (4.634 \times 1.891) = 4.38 \text{m.sq}$$

$$\frac{1}{3} \times 4.38 \times 1.452 = 2.11 \text{m.cu} \times 2 = 4.22 \text{m.cu}$$

Volume of G (Dormer) =

$$\text{Area} \times \text{Length} = 4.73 \text{m.sq} \times 6 \text{m max} = 28.38 \text{m.cu}$$

Total Volume of Proposed Roof = 158.35m.cu

Increase in Volume = Proposed - Existing

$$158.35 \text{m.cu} - 111.27 \text{m.cu} = 47.08 \text{m.cu}$$

J H Pfeiffer
BA Hons Dip Arch
Architecture & Design

76 Brougham Road
Worthing, West Sussex, BN11 2NU
Tel: 07776 253076
E-mail: heidipfeiffer@hotmail.com

Project:-

Proposed Loft Conversion at
16 Downview Avenue, Ferring.

Client:-

Mr & Mrs Warburton

Address:-

16 Downview Avenue, Ferring,
West Sussex, BN12 6QN

Drawing Title:-

Volume Calculations - Existing &
Proposed Roof

Scale:-

1:100 @ A3

Date:-

April 2018

Drawing No:-

1391 / VC01

Rev:-

-