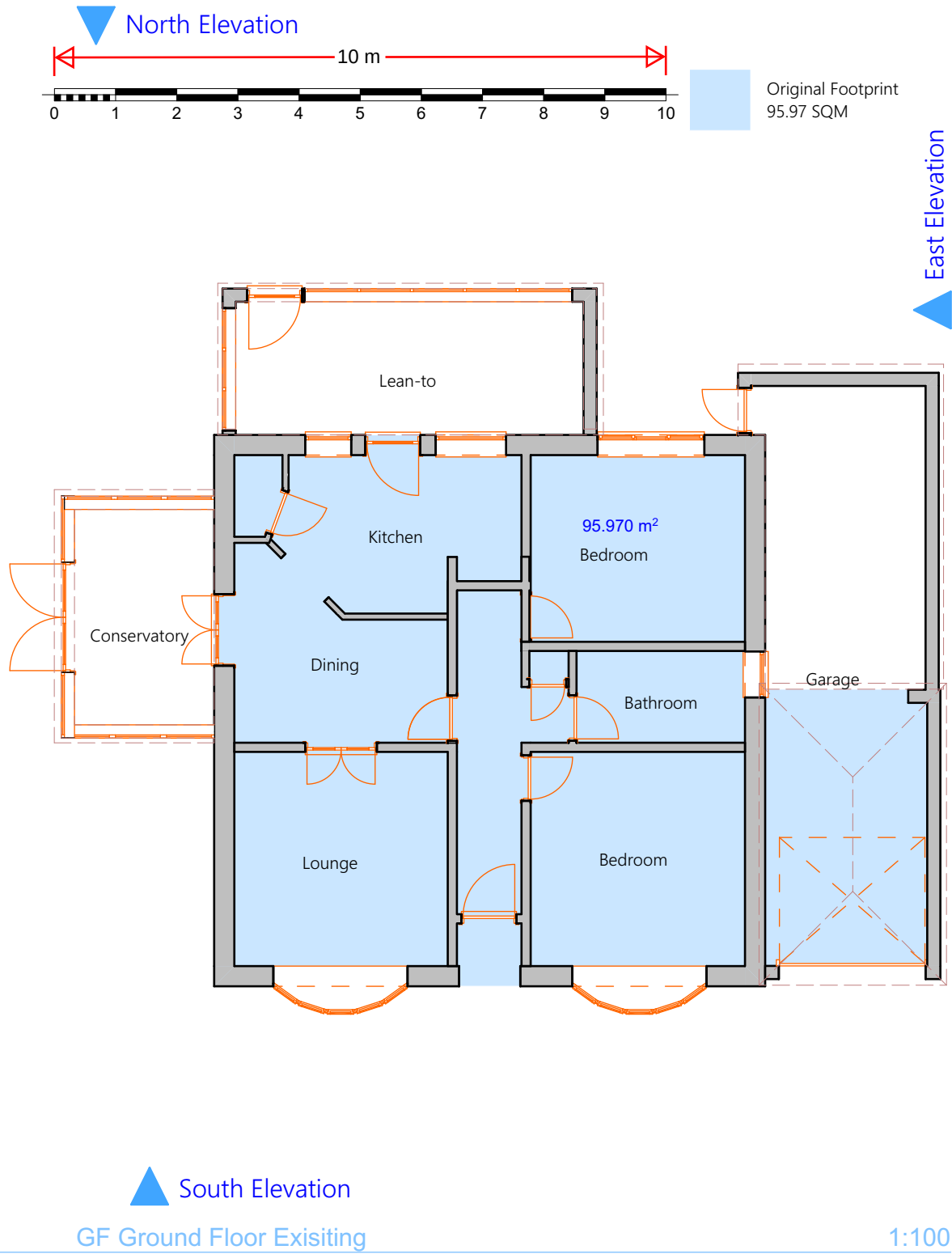


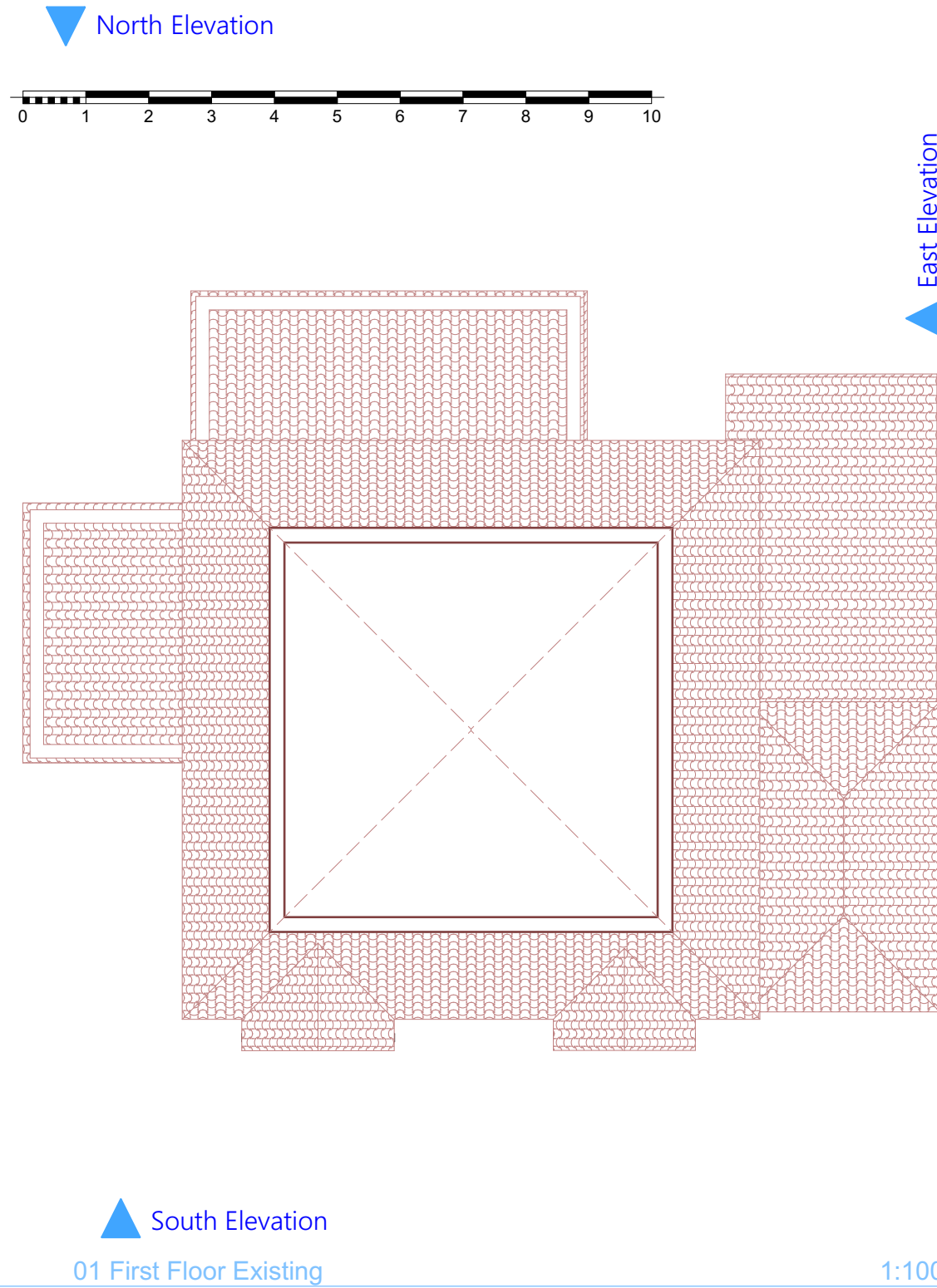
West Elevation

1



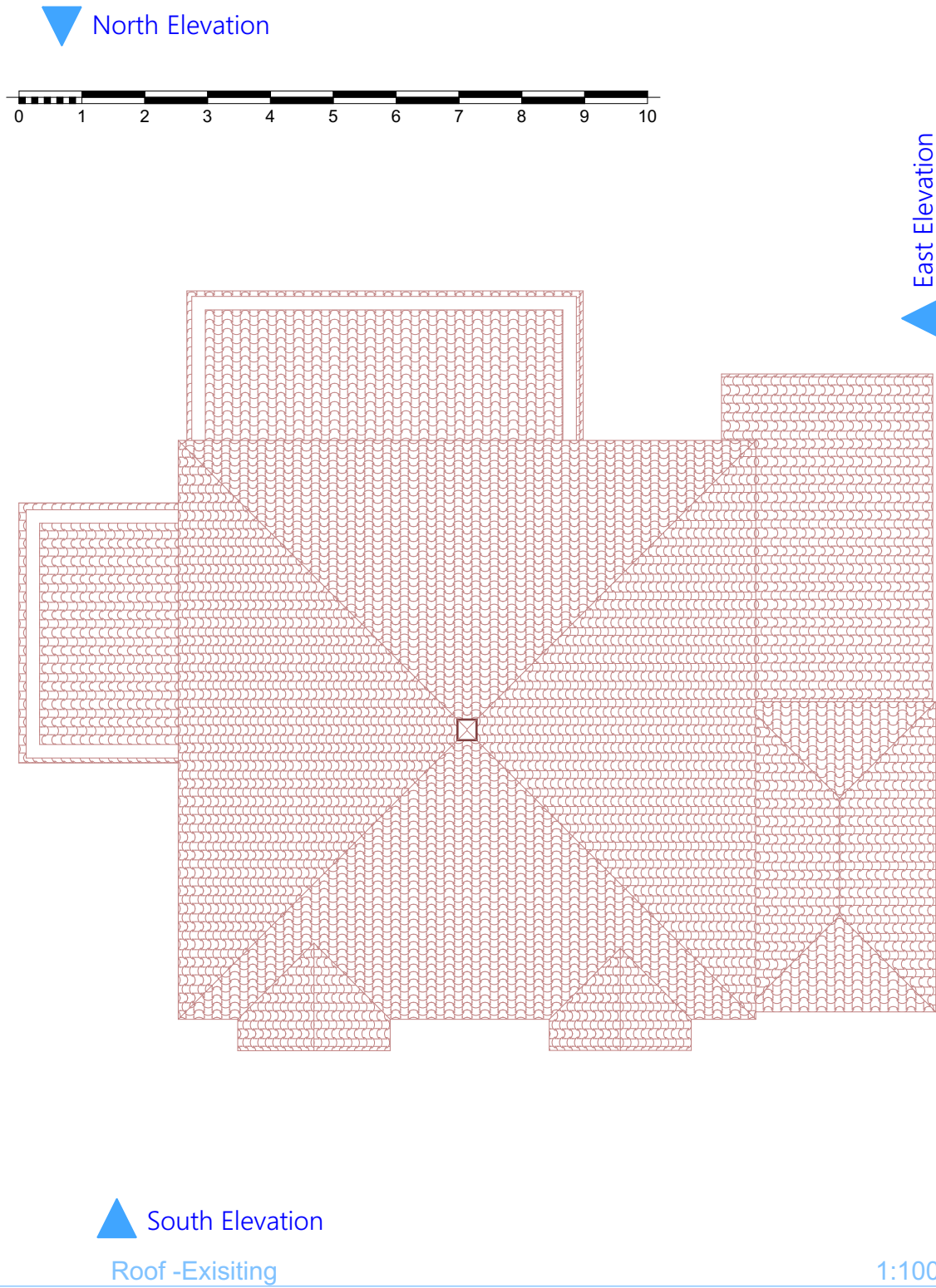
West Elevation

2



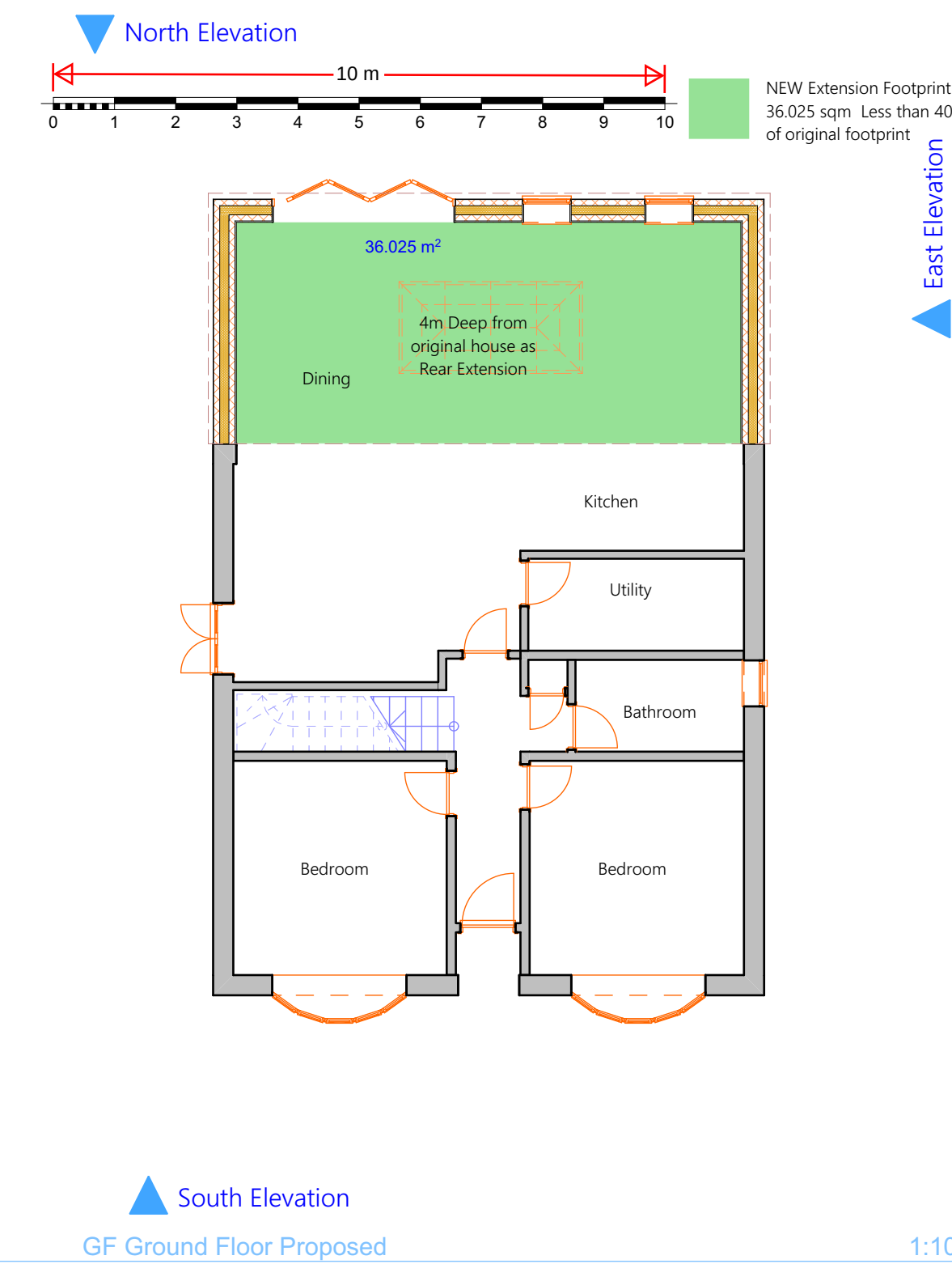
West Elevation

3



West Elevation

4



West Elevation

5

Loft Calculations

Calculations for the volume of the original 4-sided hip roof and then 40% of it.

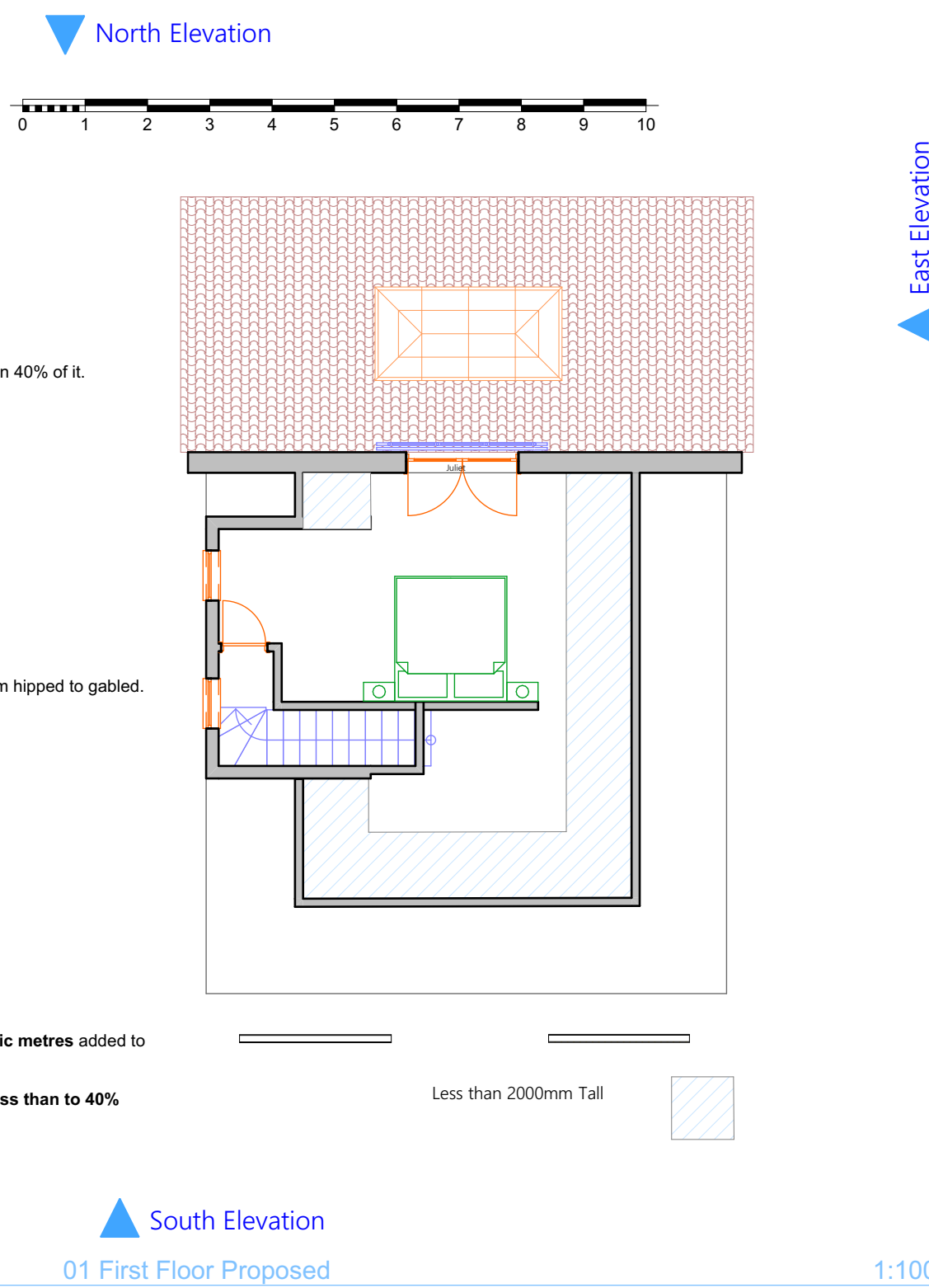
Original 4-sided hip roof:
Length = 9.011m
Width = 9.014m
Height = 3.664m
Volume = (L × W × H) ÷ 3
= (9.011 × 9.014 × 3.664) ÷ 3
= (297.608) ÷ 3
= 99.203 cubic meters
Now to find 40% of this volume:
99.203 × 0.40 = 39.681 cubic meters
So:
Total roof volume = 99.203m³
40% of roof volume = 39.681m³

calculationf the exact added volume when converting one end from hipped to gabled.
For just the end section that changes:
Width = 9.014m
Height = 3.664m
Length of end section = 4.5055m (half of total length)

Volume when this end is hipped:
= (0.014 × 3.664 × 4.5055) ÷ 3
= 49.60 cubic meters
Volume when this end is gabled:
= (0.014 × 3.664 × 4.5055) ÷ 2
= 74.40 cubic meters
Added volume:
= 74.40 - 49.60
= **24.80 cubic metres**

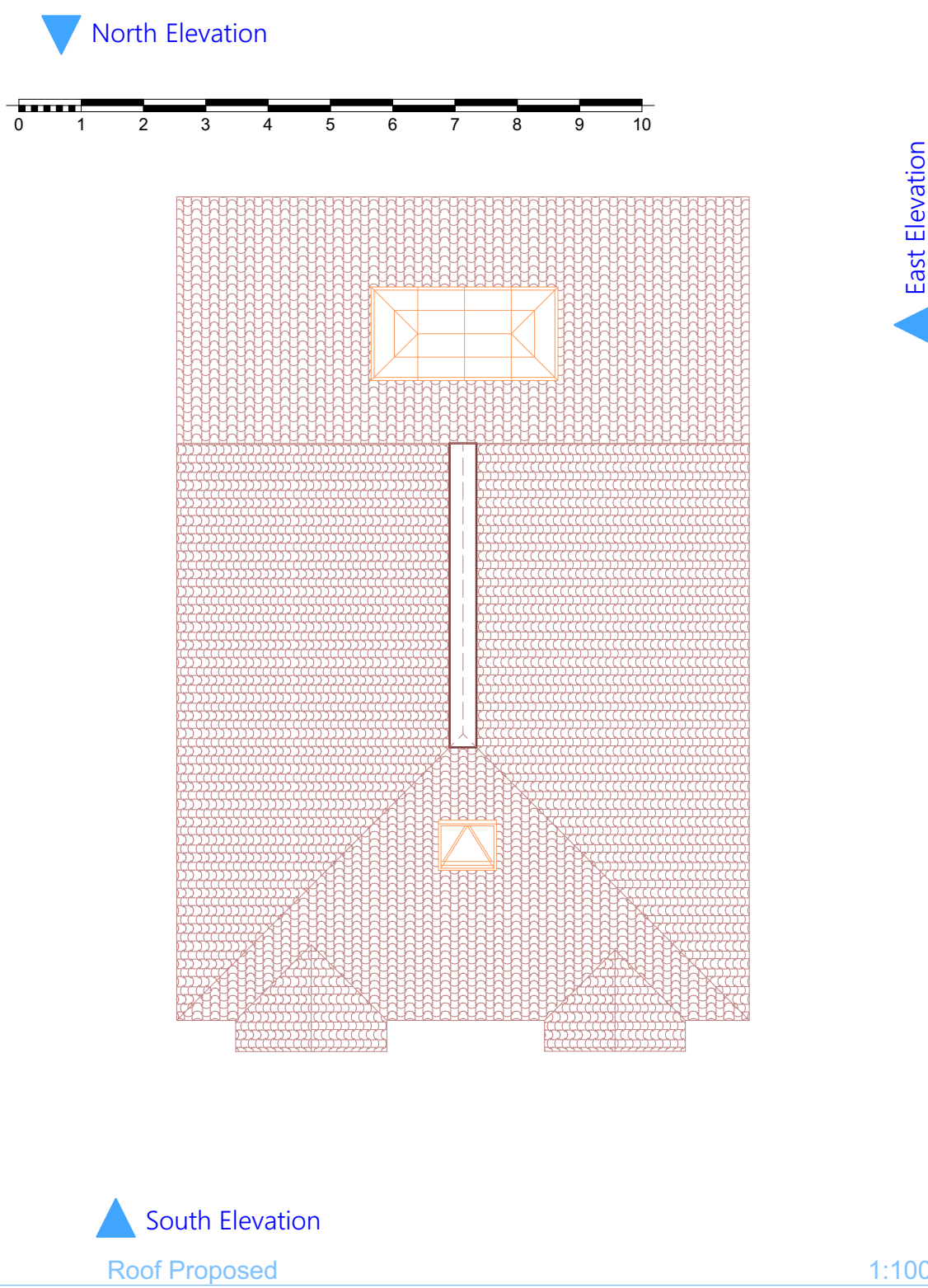
roof side dormer is 3.362cubicmets x 4.2m wide, so **14.12 cubic metres** added to side

This keep the roof additions of 24.8+14.12 = 38.92 which is less than to 40% extra(39.681) as allowed for PD in the countryside



West Elevation

6



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	Scales @ A1 1:100	Date 2025-10-22
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Layout Title		
Plans - Floorplans		
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Drawing Number		
project	originator	zone
level	type	role
number	rev	
Layout ID		
02.1		