17 Asmara Road, NW2 3SS, London

Permitted Development Calculation of volume of hip to gable, including dormer

Proposed roof volume:

1. **Proposed Hip to Gable Extension**

   Formula for hip to gable = 1/3(base x height)

   Value of base – area of base = ½(length x depth)

   Length – measure on proposed side elevation from eaves to eaves

   Depth – measure on proposed front elevation where the hip starts to gable

   Height – measure on proposed front elevation distance from existing ridge (at top of hip) to end of the ridge of the proposed gable

   Put value of base in formula for hip to gable

   Formula for hip to gable = 1/3[½ (length x depth) x height]

Hip to Gable:

Area of base	= ½(length x depth)
	= ½(8.75 x 4.25)
	Base = 18.5 m2
Formula for hip to gable	= 1/3 (base x height)
	= 1/3 (18.5 x 4.1)
	= 1/3 (75.85)
	= 25.2m3

Volume of Gable Extension = 25.2 cubic metres

2. Volume of Dormer Extension

Formula = ½ (length x depth) x height

= ½ (9.0 x 2.52) x 2.15

= ½ (22.7) x 2.15

= 11.3 x 2.15

= 24.3 m3

Volume of Dormer Extension = 24.3 cubic metres

**Combined Dormer and hip to gable volume = ** volume of dormer and volume of hip to gable

= 24.3 + 25.2

= 49.5 cubic meters