

Building on a slope in Madeira

Siting, retaining walls and access

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DESIGN AND ARCHITECTURE

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Slopes are the rule in Madeira. Knowing how to site the house on the plot decides construction cost, safety and the quality of the spaces.



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In Madeira, a flat plot is the exception. Building on a slope brings extraordinary views, but demands design decisions that weigh heavily on cost. The golden rule is simple: fit the house to the land, not the land to the house.

Siting: follow the contour lines

A long house set parallel to the contours needs far less excavation than a compact block pushed into the slope. Arranging the house in split levels or terraces, like the island's traditional *poios*, cuts earthworks and tall walls.

Retaining walls: the hidden cost

Every metre of wall height is expensive. Before fixing the layout, ask the designer for an estimate of:

- Cut and fill volumes, and whether the soil can stay on site.
- Wall heights and lengths, showing which ones are structural.
- Alternatives: planted embankments, gabions or the house structure itself acting as retention.

Geotechnics before structural design

A geotechnical survey with boreholes is not a luxury on a slope. The island's volcanic soils change a lot within a few metres, and the foundation type depends on that information. Doing the survey early avoids redesigning the structure later.

Water: the main enemy

Rainwater runs down the slope and builds up behind walls. The design should include:

- Drainage behind every wall, with geotextile and a perforated pipe.
- Gutters and channels uphill of the house.
- Careful waterproofing of buried walls.

Access and construction

Think about the building site before the car. Can a crane, a lorry or a concrete pump get there? Narrow access raises the cost of every cubic metre. Once the house is in use, a driveway steeper than 15 to 18% becomes hard to live with.

In short

Good siting on a slope is invisible: you feel it in the final bill and in a dry, stable, well-oriented house.

QUICK CHECKLIST

- Layout parallel to the contours
- Estimate of walls and earthworks
- Geotechnical survey before structural design
- Complete drainage plan
- Site access checked in person

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