

Fundamental Benchmark

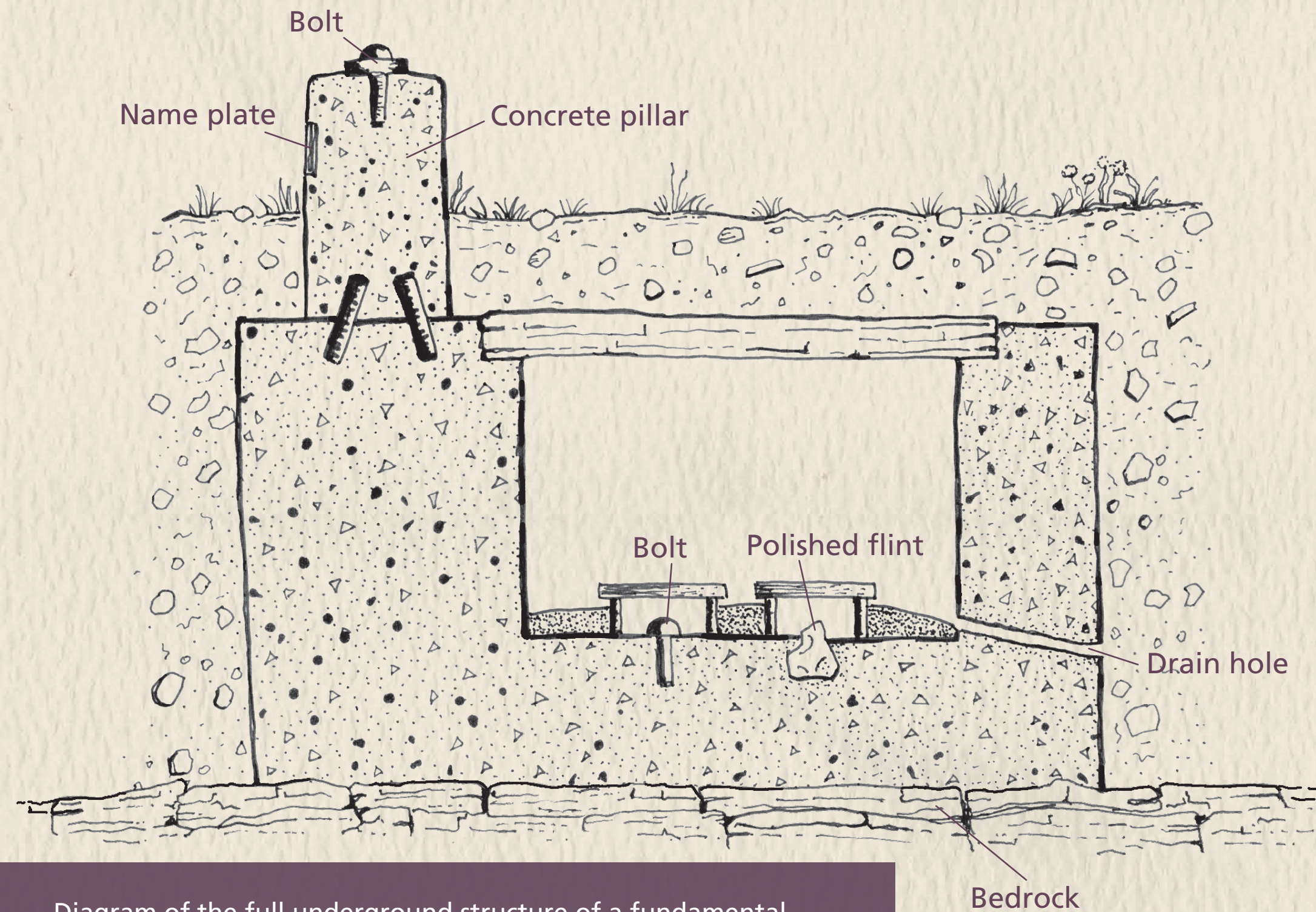


Diagram of the full underground structure of a fundamental benchmark (FBM). Satellite data has overtaken this manual system today, but the Ordnance Survey still maintains the FBM network.

Sea Level

This unassuming block – and 200 other Fundamental Benchmarks in a grid covering the whole country – is still used to give surveyors an accurate height above sea level.



A Precise Network

‘Sea level’ actually means the average sea level at Newlyn, Cornwall, calculated using readings taken every hour over six years from 1915-1921. A precise reference grid of levels was then built across the country, with about 200 locations chosen for their stable underlying bedrock.

The height of Fundamental Benchmarks (FBMs) was computed very accurately using the sun and north star, and the markers built for durability. This one is 71.6131 metres above sea level. The height mark is in a chamber underneath the pillar, the metal bolt on top a practical reference point.



The pre-satellite system has left the nation scattered with surviving ‘flush brackets’ and ‘cut marks’ which infilled the network of FBMs. This is a cut mark nearby, on Marsh Drive, on the railway bridge.