Parry's Close, Stoke Bishop, Bristol

This site for three bespoke timber framed houses presented the kind of unique engineering challenge that we relish at KB². It combined sloping ground with densely planted rare trees, most with Tree Preservation Orders (TPOs), which in this case required that the roots were protected from damage.

Our brief was to design foundations and an access road using 'no-dig' methods in the Tree Preservation Zones. This was achieved with the use of mini piles which were bored into positions which would not sever major roots, and combined with shallow ground beams to form the foundations. They were stepped above ground in order to create a level base on sloping ground without the need for excavations.

The degree of compression allowed in 'no-dig' areas was established with the advice of an arboriculturalist. As a consequence, the access road was designed to take a circuitous route around sensitive areas, and 'no-dig', ground up construction methods were used to cause minimal ground disturbance. A timber edging contained the road materials and provided an attractive finish.

The homes themselves were timber framed, with spot structural elements incorporated where the flitching of columns and beams was required to attain the capacity needed for each element.

Three bespoke timber-framed houses used pile foundations and 'no-dig' driveway construction to minimise root damage to important existing trees on the site.

KB² Consulting Civil & Structural Engineers

Providing engineering certainty by delivering intelligent designs, minimising project risk and applying principles of sustainability.

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