Construction of a pre-cast concrete service reservoir using BIM

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SYNOPSIS Bramley service reservoir (SR) is a 16ML, twin-compartment, new-build that was required to replace an existing structure that had reached the end of its asset life. The reservoir is constructed of pre-cast concrete wall and roof units with an *in situ* concrete base, wall infills and roof screed. It is part of a standard product design used on more than ten reservoirs by MMB in the AMP5 period. The existing reservoir is situated within a public park and one compartment had to be demolished to allow for the construction of the new reservoir while the other compartment had to remain in service throughout the construction of the new SR to maintain water supplies.

Due to the land constraints within the park the new reservoir was located partially on the footprint the existing SRE and partially over a backfilled quarry. This paper will summarise how the challenges of the demolition and support of the existing structure were met; the varied foundations and how the piling design was incorporated into the already established precast design; and the benefits of BIM to the project.