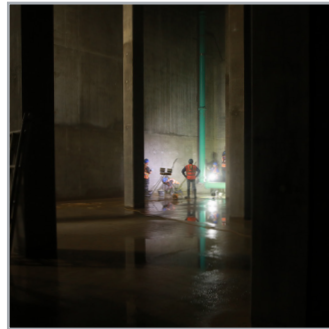


MAINTAIN REPAIR REFURBISH BUILD

PROJECT SERVICE RESERVOIR DEMOLITION & NEW BUILD



After demolishing a condemned prestressed tank, Stonbury returned to build a new, larger capacity, eight megalitre tank to serve new housing developments in the area.

Once welfare units and a vehicle turning area were set up, the location for the new tank was excavated and the old balancing pipework was removed, capping the existing pipes so that they could be reconnected when the project was completed. Underdrains were installed followed by concrete blinding and steel reinforcements, and then the base slab was laid in four separate concrete pours.

Shutters were erected to enable construction of the walls, which began with a 3-metre-high lower wall concrete pour. To complete the walls, a 7.8-metre-high upper wall pour was constructed using external formwork vibrators and a 10-metre-long poker due to the height.

The top reinforcement cage was fabricated on the ground in 6-metre-long sections and lifted into position with a tower crane. This limited the amount of time that the team were working at height. The tower crane was also used to lift the formwork panel and the large push-pull props into position. At this stage, overflow and outlet pipework were installed.

For construction of the roof, concrete beams were lifted into place and topped with reinforced precast concrete slabs, using a tower crane. Structural concrete screed and lytag screed were then cast on the roof. The lytag was laid with a front to back fall to allow water to run off of the roof.

Once construction of the tank was complete, the team installed a waterproof liquid membrane to the roof. The reservoir was then filled with water and underwent a seven day drop test to ensure there were no leaks. This successfully passed and the tank was drained for a final inspection and a clean and chlorination.

Finally, the mechanical, electrical, instrumentation, control and automation (MEICA) elements were installed, including alarms on the security hatches and door, along with external access fabrication which consists of a permanent exterior staircase and permanent handrailing.