

A large-scale construction site at night. A massive, rectangular concrete slab, the base for a sprinkler tank, is being poured or has just been poured. The site is illuminated by bright work lights, and a large industrial building is visible in the background. The foreground is filled with dark earth and construction equipment.

BC Civils installs **sprinkler tank base at Coventry manufacturing site**

Specialist civil engineering business, BC Civils, has successfully completed the installation of a large sprinkler tank base and service trench at a manufacturing site in Coventry. The challenging project involved working in an area traversed with services and near to offices.



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To ensure proper fire safety provision, site managers planned to install two 300-ton water tanks to service sprinkler systems across multiple manufacturing facilities. A key aspect of the project was to reroute services and install a concrete base large enough to accommodate the heavy tanks. BC Civils was approached by a project contractor to design and build the base, as well as dig a long service trench so new water mains could be laid.

Before work commenced, BC Civils conducted thorough assessments and investigative works at the site. The former included a ground penetrating radar (GPR) survey and site scanning to help identify any services along the proposed path of the trench. With the site having hosted manufacturing for over 100 years, it was crisscrossed with over 80 existing services, any of which could cause disruption to operations if damaged. Investigative works involved California bearing ratio (CBR) tests, topographical surveys and taking soil samples.

To design the tank base, BC Civils commissioned an experienced

structural engineer and collaborated with them to develop a cost effective design. A reinforced concrete base measuring 20 m long by 9 m wide was blueprinted, along with the service trench to provide water to the tanks.

Site assessments and design work complete, BC Civils began excavations. Services were marked out beforehand, but further contingencies were put in place to ensure a smooth delivery. Works were supported by an Energy & Utility Skills Register (EUSR) qualified site agent carrying out additional service searches. Digging was supervised by a National Plant Operators Registration Scheme (NPORS) excavation marshal and conducted by a Construction Plant Competency Scheme (CPCS) qualified driver using a toothless bucket to minimise any risk of damage.

A 300 m long, 1 m wide, 1 m deep service trench was dug from the site boundary to the sprinkler tanks. This involved cutting out any tarmac in its path. When complete, this provided enough room for two 4-inch water mains to be laid. Concurrently, BC Civils constructed the concrete base, delivering a robust foundation for the large, heavy tanks. With groundwork complete, BC Civils appointed and managed a reinstatement contractor who reinstated any tarmac over the back-filled trench.

There were additional challenges during the project, as Adam Hickling, Director at BC Civils, explains:

“We’re used to working in hard to reach, complex sites, but what differentiated this project was that it took place next to active offices and workers. We therefore had to ensure a clean, well-organised site and minimise disturbance to our surroundings as much as possible. With the terrible weather and the slow, careful excavations we carried out over a 20-week period, we are proud to have achieved this project to the complete satisfaction of our client.”

The site managers were happy with the result and can now benefit from the confidence that their new fire suppression system provides.



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Case Study: 002