

NEW UTX CROSSING DESIGN

Due to an existing collapsed Undertrack Track Crossing (UTX), Frankham Consultancy Group were appointed to carry out the design of a new UTX crossing to be installed across the two lines, ELR Ref BBJ, country end of Crystal Palace Station platforms 1 & 2 (Fig. 1).

The works, which were in accordance with Network Rail's standard Planning, Design and Construction of Undertrack Crossings, utilised an open cut installation method.

Due to constraints dictated by the standard and site, it was not possible to install the UTX using benching/battering. Temporary works were instead utilised to achieve the open cut installation method using a proprietary system. The new UTX passes from cess to cess and connects to new inspection chambers to allow several cables to be carried.

Due to the constraints imposed by the site and surrounding environment, such as limited possessions, drainage pits/pipes and buried services, High-Density Polyethylene (HDPE) chambers and ducts were used to form the UTX to allow for speed and flexibility in the installation.

Due to ground conditions where the water table could fluctuate above the base of the chamber, an anti-floatation skirt was added to the base of the chambers.

The location of the UTX and chambers and the construction methodology were also influenced by clearance requirements from track welds and running rail edges.

The design (Fig. 2 and Fig. 3) placed particular emphasis on minimising the risks to the operational railway whilst maintaining the stability and integrity of adjacent infrastructures and lineside apparatus.

In addition to the design, Frankham also procured a topographical survey and track drainage investigation, undertaken through our in-house specialist surveying team, providing added value to our client.



FRANKHAM

Client:
Osborne

Sector:
Rail

Services:
Civil Engineering

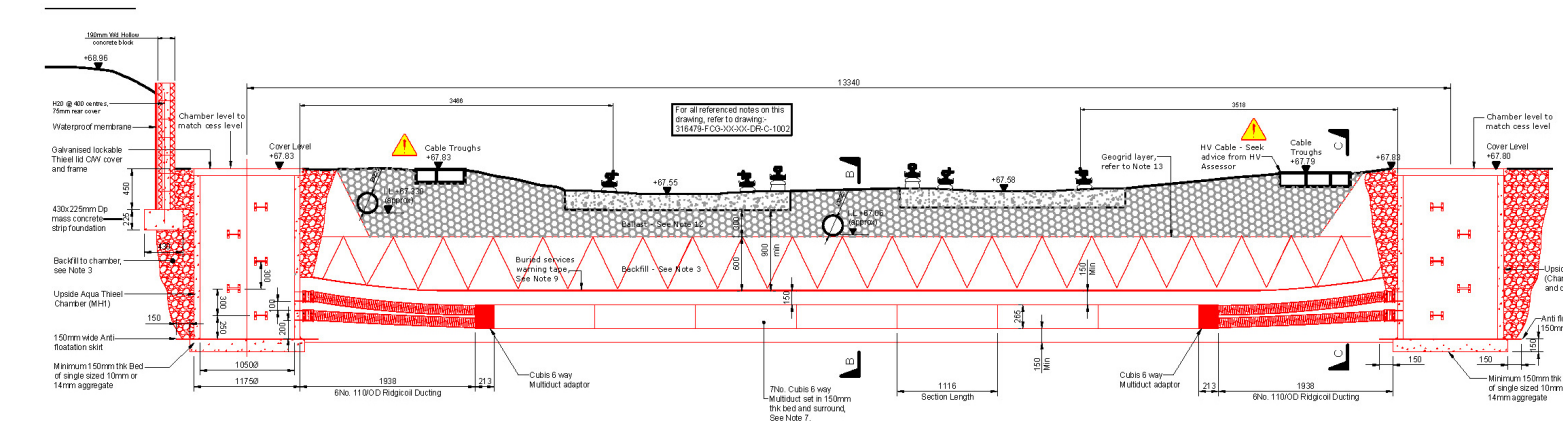


Fig. 2 Cross section of the proposed new UTX design. Details include provision and location of minimum bed and surround, geogrid layer, buried services warning tape and hazard warning triangles to highlight the presence of service cables.

