

PIPE JACKING CASE STUDY

A63 Castle Street Sewer Diversions, Hull



www.pipejacking.org

PROJECT **A63 Castle Street Sewer Diversions**

CLIENT **Yorkshire Water**

CONTRACTOR **Ward & Burke**

PIPE SUPPLIER **Tracey Concrete**

TUNNELLING MACHINE **Herrenknecht AVN**

VALUE **£10.33million**



PROJECT OVERVIEW

The A63 (Castle Street) scheme was located in Hull City centre, England. Ward & Burke carried out a total of 822m of tunnelling, including both straight and curved microtunnelling and handjacked drives. These were completed in different sizes (DN1200 & DN1500) to the required grade and accuracy, in difficult ground conditions and past / below sensitive and historical assets. The works were located in a built-up area, requiring a significant interface with utility providers and stakeholders, as well as the general public.

DESCRIPTION OF WORKS

Western Section (Arco)

- AIP reports for each shaft and tunnel in accordance with CD 622, liaison with Highways England SES team.
- Design and construction of:
 - > 6m ID RC launch shaft
 - > 3 Nr. 4m ID RC reception shafts
 - > 3Nr. straight DN1200 tunnel drives at pre-set grades to match the existing sewer network (353m total) - including a drive parallel to the existing A63 carriageway with ~2.9m of cover.
 - > 1 Nr. DN1200 hand-drive tunnel (12m) beneath a critical YW asset (18" cast-iron water main, 1935)
- Installation of dry-weather flow (DWF) channel through each tunnel

Eastern Section (Holiday Inn)

- Design and construction of:
 - > 7m ID RC launch shaft
 - > 1 Nr. 5m ID, 1 Nr. 4m ID RC reception shaft
 - > 1 Nr. 4m ID RC pumping station shaft, c/w overpumping arrangement to allow zero interruption to key stakeholders during tunnelling works.
 - > 1 Nr. curved DN1200 tunnel adjacent (1.5m) to a grade II listed building (Castle Building, Hull), parallel with the live A63 carriageway
 - > 1 Nr. curved DN1500 tunnel (263m length) on a 200m radius curve, adjacent to piled swimming pool foundation and graveyard boundary line.

FURTHER INFORMATION: www.wardandburke.com

