

Boring down Park Avenue

In the established Sydney suburb of Mosman, Sydney Water chose UEA to complete the installation of a challenging wastewater pipe along Park Avenue.

The Sydney Water Sewerfix Alliance engaged UEA to undertake the Park Avenue bore based on the proposed work method statement and track record of completing difficult projects. Due to the complexity of the bore UEA engaged the services of a steering engineer utilising a Paratrack 2 system.

UEA utilised its 45 tonne Vermeer D100 x 120 machine to undertake the pilot bore. The ground conditions consisted mostly of sandstone for large portions of the work. The only issue was the amount of groundwater encountered the further the bore proceeded, up to 40,000 litres per 24 hour period. The pilot bore was completed in twelve days and was only 30 mm out of line at the proposed manhole intersection point.

Site specific challenges included maintaining the grade and working in a densely populated area of Sydney. Other challenges were intersecting a manhole at the end of the bore, large amounts of groundwater and no room to layout new pipe for pullback.

Reaming

The design of the project allowed for UEA to utilise PDC forward reamers with all cuttings and drill mud returning to the drill face. UEA chose to upsize the hole in two passes – an initial cut of 13 inches and then a final cut of 18 inches. Due to limited

work hours an average of 36 metres per day was achieved with the hole ready after 32 days to receive the product pipe. The quantity of ground water also slowed the process as handling and removing the water in such a tight set up area was difficult.

Pipe installation

The pipe to be installed was a 355 mm SDR 11. Due to the limited room at the exit point the pipe could not be strung out and pulled in conventionally. UEA chose to push the pipe in and de-bead each weld as it was installed. A ten tonne winch was used at the exit point to aid with the installation which proved to be very successful and pipe was installed after eight days of work.

Outcome

This difficult project was a complete success for all parties concerned without any major incidents. The impact on the residents, while dramatic, was handled very well by all parties with excellent liaison between UEA and the client ensuring the impact was kept to a minimum. The project was completed on time in preparation for connections by the civil crews and construction of manholes.

UEA received excellent feedback from the client with regards the quality of the work undertaken, the project management and timing.



The Vermeer rig.



On site in Mosman.



The tight and compact drill site.

Wet Weather Overflow Abatement Program 2007–2010

Park Avenue, Mosman, New South Wales

Client: Sydney Water Sewerfix Alliance.

The project: install 1 x 355 mm PN 16 PE Pipe on grade in rock approx 580 metres under numerous properties in the Mosman Area.