

Grand Union Canal Crossing, London

client	Enterprise
project	Allenby Road Trunk Main Reinforcement
date	April 2011
pipe	560mm Water Main/120m
location	Grand Union Canal, Southall, London
geology	London Clay
drill	American Augers DD-8

Enterprise

maintaining the infrastructure of the UK

Scope | This was McCormack Drilling's second project for Enterprise in west London. The HDD was situated in playing fields off Lady Margaret Road, Southall and formed part of the Allenby Road Trunk Main Reinforcement. The scope of the drill was to install 120m of 560mm HDPE watermain under the Grand Union Canal.

Preparation | The set up on the launch site (pictured right) required the installation of polythene sheeting and rubber matting to protect the grass in Durdan's Park.

Pilot Bore | The pilot bore was undertaken using a INCREDIBIT® drill head along with a Digitrak Eclipse guidance system and was completed in 4 hours through some tight London clay. Throughout the pilot bore drill fluid returns were maintained, helping the recycling process and also reducing the likelihood of a hydrofracture; an important consideration given the sensitive locality.



Fluid Engineering | The geology of the area consisted of London clay, a notoriously sticky and swelling formation. Particular attention was paid to getting the correct drill fluid composition, which, from a design point of view was critical to the success of the project. As part of the recycling process a 110mm fluid return line was drilled from the launch pit to the exit pit enabling fluid returns to be pumped to the recycling unit. This was invaluable to the project as transferring fluid by road in a busy urban environment would be impractical.

Pre Reaming | The pre reaming process was completed in two and a half days. To facilitate the insertion of the 560mm PE water main the bore was enlarged in stages by pre reaming. The first ream was 350mm (14"), the second ream was 500mm (20"), the third ream was 650mm (26"), the fourth ream was 800mm (32") followed by a final swabbing ream of 800mm (32") with a 'barrel' reamer to clean and prove the bore.

Installation | The product pipe was installed on day six of the project and took three hours to pull back ensuring another successful project completed on time. Proving, that with diligent planning, the right personnel, expertise and equipment, HDD operations of this nature can be undertaken in urban environments by McCormack Directional Drilling.

