

## Molly the Mole Goes Underground

At the launch ceremony in Airdrie, Byzak's tunnelling machine, named Molly the Mole by Aimee Stewart, a pupil at the local Alexandra Primary School, was lowered into the drive shaft in readiness for its 1200 metre long journey beneath the town at depths up to 40 metres.

Senior executives of Scottish Water and pupils from Alexandra Primary School saw the tunnel boring machine (TBM) arrive on a low loader, then its unveiling and finally the lifting into position of the component parts of the 63 tonne TBM by a 450 tonne capacity mobile crane.

As special guests, the children were able to view the tunnelling equipment and experience being lowered into the drive shaft.



*Richard Ackroyd, Chief Executive of Scottish Water, and Geoff Aitkenhead, Asset Management Director are joined by Aimee and classmates*



Follow the progress of Molly the Mole and the Clean Airdrie project on Facebook: <http://www.facebook.com/cleanairdrie> and the Airdrie Environmental Project - Scottish Water on You Tube: <http://www.youtube.com/watch?v=m2QAJ8Ezlll>

The tunnel is part of the £15.8m Airdrie and Coatbridge Transfer Sewer Project, the purpose of which is to alleviate flooding of properties in Airdrie and improve the condition of local watercourses.

The tunnel which combines sewage transfer and storm water storage is the main feature of the project. It will be excavated by the Herrenknecht EPB machine and lined with 2.4m diameter precast concrete segments – the same combination adopted for a previous major tunnelling project in Scotland, Acre Road in Glasgow. The TBM will be driven on a rising grade from the 38m x 8m x 9m deep sheet piled pit towards the reception shaft in a car park near Airdrie railway station. The ground conditions are expected to be mainly Coal Measures rock. 580 metres of connecting 1500mm dia pipejack tunnel will also be made, one 120m length crossing below the station and railway. The latter length will be constructed using the Herrenknecht AVN 1600D slurry tunnelling machine.

Elsewhere there will be directional drilling and large diameter open cut sewers at depths up to 6 metres. Other underground works include segmental shafts and major reinforced concrete structures for combined sewer overflows and a storm water storage tank. The latter is a 25m dia 11m deep circular tank, constructed within an open excavation.

Byzak has made significant contributions to the design of this scheme. An alternative tender was submitted which proposed radical changes to the tunnel route and construction methods. As well as providing cost savings for Scottish Water, the adopted solution will cause less disruption to residents and businesses in Airdrie. In order to confirm the viability of the new route, additional site investigations were carried out and extensive discussions held with Network Rail and local stakeholders.



### The Byzak Team

Site management people:

Richard Aitchison (Delivery Manager)  
Paul Cowie (Site Agent)  
Kris Cameron (Open Cut Agent)  
Tim Hitchens (Site Engineer)  
Andy Duncan (Site Engineer)  
Shaun Farrelly (Foreman)  
Billy Laidler (Foreman)  
Jim Matheson (Plant Manager)