

PIPE JACKING CASE STUDY

Willowburn Culvert Replacement



www.pipejacking.org

PROJECT	Willowburn Culvert Replacement
CLIENT	Northumberland Estates
CONTRACTOR	A E Yates Trenchless Solutions Ltd
PIPE SUPPLIER	F P McCann
TUNNELLING MACHINE	Herrenknecht AVN
VALUE	£1,000,000



PROJECT OVERVIEW

An existing culvert that runs below a heavily wooded area was partially collapsed and was causing the stream flows to back up in times of high rainfall. The surcharging of water at this location had the potential to affect the A1 carriageway and rectification of the fault required immediate attention

Repairing the culvert was deemed impracticable and an off line replacement was installed using the pipe jacking method.

DESCRIPTION OF WORKS

Two 1500mm diameter x 170m slurry tunnels were installed using a Herrenknecht AVN machine. The tunnels were driven from a central drive shaft measuring 6000mm diameter x 12m deep. This shaft was converted to a finished manhole after tunnelling.

At the inlet and outlet ends of the new culvert, reinforced headwall structures were constructed. The inlet head is fitted with a steel trash screen and the outlet fitted with a security grille and lockable door to prevent unauthorised access

Ground conditions were clay and sands and gravels.

CO₂ SAVINGS

CO₂ savings of the pipe jacking element compared to open cut construction were 50% for the 1500mm diameter drive. Source: pipejackingco2calculator.com

FURTHER INFORMATION: www.aeyates.co.uk

