

# Esk Valley Burghs CSO Regulation

<b>Contract Value</b>	£7.82M	<b>Commenced</b>	Jun 2002
<b>Contract Period</b>	5 Years	<b>Completed</b>	May 2007

## Features

- 5,100 metres of gravity sewer and rising main in open trench
- 775 metres of microtunnelling, 1000 mm dia
- 4No Pumping stations with M&E works
- 5No RC overflow chambers with screens
- Target cost contract
- Town centre and residential areas
- Extensive third party liaison
- Archaeological Watching Brief

## Brief Description

The works cover separate schemes in and around Dalkeith and Bonnyrigg in the Esk Valley, south east of Edinburgh.

The purpose is upgrade of the existing sewerage system and close existing unsatisfactory storm overflows which cause pollution of the Rivers Esk and South Esk. This was achieved by providing larger capacity sewers, pumping stations and constructing modern storm overflow chambers with screens to control discharges to the rivers.



The works mainly involved the construction of open trench sewers and reinforced concrete structures and river outfalls in a variety of ground conditions and site environments. M&E works included the installation and commissioning of mechanical screens and pumps. Pipe diameters range from 300mm to 1500mm.

Phased construction has been employed in conjunction with extensive consultation and third party liaison for selecting sewer routes, construction methods and work programmes. Traffic management and customer care measures have high priority throughout. An archaeological watching brief applied to the works in Dalkeith

Phase 1 in Dalkeith included 550 metres of 1000mm dia microtunnelling in school and college grounds carried out with Byzak's Herrenknecht AVN 1000 remote controlled slurry machine. Ground conditions were water bearing sands, clays and weak sandstone. Longest drive was 250 metres. Phase 2 works at Bonnyrigg also included microtunnelling, 225 metres beneath the A7 and other main roads.



Works in Dalkeith included open cut sewers laid along a former rail track (now used as public trail) and across recreational ground and a Golf course, in

pipe diameters up to 800mm. At Bonnyrigg, sewers were being laid in the town centre and residential roads in diameters up to 800mm, and in recreational, open ground in diameters up to 1500mm.

Elsewhere works consist of smaller diameter pipes, rising mains and outfalls with headwalls to the rivers.

Pumping stations and drop shafts comprise segmented shafts and caissons. Overflow structures comprise conventional reinforced concrete structures, with either hydrojet or rotomat powered screens.



Contract conditions are I Chem E (Green Book) - Target Cost - Open book.

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