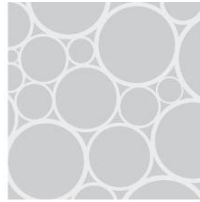




ENVIRONMENTAL



FLOOD RISK



DRAINAGE



ECOLOGY

# Telford DAP SW Modelling

## Severn Trent, Asset Delivery, 2003-09

### Project aims

As part of the Telford DAP model development, it was important for the connectivity of the Surface Water System (SWS) in North Telford was understood. The surface water aspect was to feed into parallel DEFRA IUD pilot studies and future Surface Water Management Plan studies.

This additional SWS modelling was included as part of the baseline DAP modelling undertaken in accordance with the ST AMP4 specification. The key aspects of this study involved the simplified representation of streams, brooks, lakes and



reservoirs, in addition to replicating the interaction of these hydraulic features with the SWS, and combined

system.

### Project summary

The study area covered the sewerage catchment draining to Rushmoor STW, with a population of 77,000. The sewer records provided showed the main features of the catchment, but failed to show all detailed interactions, connectivity and SW structures.

In order to improve the understanding of the connectivity of the SWS, as well as its interaction with the various brooks, lakes and reservoirs, a series of surveys were undertaken by Clear. These ranged from detailed cross-sections of brooks to be modelled as open conduits to the survey of inlet and outlet

chambers on the various ponds and culverts in order



to correctly model the chamber sizes, levels and screens. The interactions were generally modelled using orifice, weir and screen links dependant

on the control structure identified during survey, with assumptions together with measurement of areas in Google Earth used to model the ponds and reservoirs.

A small number of flow monitors were located in the SW system to allow verification.

The full DAP for the catchment was undertaken in parallel, involving detailed modelling of all ancillaries and the foul / combined public sewer system. In a number of areas further detailed surveys and model upgrade was undertaken to produce Type III models fit for purpose for solution development.

