



ENVIRONMENTAL



FLOOD RISK



DRAINAGE



ECOLOGY

Thurcroft UPM and DAP

Severn Trent, DAP & wireless flow monitor trial 2004-09

Project aims

A simplified river impact assessment was required to assess the water quality impacts of a proposed UID improvement scheme. The UPM approach was followed to check compliance with the percentile and fundamental intermittent standards at Hooton Dyke. More recently, clear have undertaken a long term, wireless flow monitor trial at this CSO to test the performance of this emerging technology.

The key aspects of this study were InfoWorks modelling, water quality modelling, UPM river impact assessment, CSO analysis and optioneering, and long term flow monitoring and wireless flow monitors.

Project summary

The study area covered the sewerage catchment draining to the Scunthorpe STW. The population of the catchment is some 6,700. A verified InfoWorks hydraulic model was supplied by Severn Trent Water and this was used as the basis for developing a water quality model.

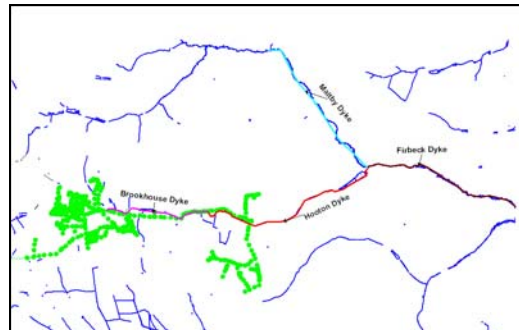
Watercourse surveys were carried out to establish river cross sectional and slope details and the InfoWorks model was updated to include represent the river units.

The river impact assessment was undertaken using simplified assessment techniques on the basis of default parameters.

The InfoWorks UPM analysis tool was utilised to investigate the effect of the Steadfolds Lane UID and

storm tank discharges on the receiving waters. Water quality objectives were set by the EA and the model predicted that these are achieved in the upstream reaches. This indicates that the Steadfolds Lane CSO does not cause a failure in the permitted water quality criteria.

It was recommended that the CSO chamber be rebuilt the chamber to improve solids separation and to fit 6mm-3D screens. The river reach downstream of the Steadfolds Lane CSO passes through a high amenity area.



As part of the AMP4 DAP programme, Clear have revisited the model and reconstructed this based on the most up to date Severn Trent modelling specification. As part of this update a long term flow survey has been undertaken at the Steadfolds Lane CSO, and a live flow monitor trial undertaken. This trial has provided continuous web based data at this site, and Clear have been responsible for testing the performance of the flow monitors and the web based data format and supply / calibration process.

