

WaPug Spring 1988 MeetingTaunton Drainage Area Study

Haiste were commissioned in July 1987 by Wessex Water to undertake a Drainage Area Study of Taunton. The work equated to Phases 1 and 2 of the "Full Investigation Flow Chart - Fig. 2.1" of the WRC/WAA SRM.

Taunton's Drainage Area covers 21.2 sq.km., of sewer length 284km serving a population of over 73,000. The nucleus of the town sewers are combined and were built between 1830 and 1900. Peripheral areas developed in the last 30 years were designed as separate systems but effectively drain into the central core of sewers. A programme of re-sewerage and renovation during the 1970's has dealt with most hydraulic and structural problems. Additionally several villages drain into Taunton or the long outfall sewer.

Works are programmed to be complete by the end of November 1988 at a total estimated cost of £268,000 including Manhole Location Surveys, Flow Survey, CCTV Sewer Inspection and Man Entry Inspection. All contracts except the CCTV Sewer Inspection are placed and supervised by Haiste Limited.

The emphasis to date has been placed on developing the Town Model leaving the "villages" to later. This is due to the lack of reliable sewer information in the villages whilst the information in the Town has been adequate to build a preliminary model. A database of over 1200 sewers was compiled from Taunton's existing records supplemented by a limited level survey. From this a WASSP model with 290 nodes has been built. Work is progressing with the model verification following the completion of a 4 week short term flow survey with 43 monitors. Reasonable correlation was observed at approximately 10 monitors without revision to the original model.

Preliminary Sewer Categorisation was also carried out on the Haiste database of sewers using in-house software. This has identified 13.8km of category 'A's and 18.7km of category 'B' sewers, within the 62km of core area sewers modelled.

Future work includes the incorporation of Manhole Location Survey information into the model, completion of model verification, Impermeable Area Survey, Man Entry Sewer Inspection and the identification of hydraulic and structural problems. As yet no problems have been perceived with WASSP in building the Taunton Model, which has been the mainframe version modified by Haiste to run on IBM PC's (ATX).

11325/MCL/DKS
13th April 1988

Discussion on Mike Leafe's Paper

1 W J Harrison (Staffordshire Moorlands D.C.)

Q Any problems with flow survey in January? Not recommended between December and March.

A Concerned, but rainfall records showed January/February to be wettest months. It was mild during the flow survey and problems of frozen instruments did not arise.

2 Martin Osborne (HRL)

Q The speaker had described a complex arrangement of ancillary structures. Was the model of the 'complexity' stable? How large a storm?

A It was stable up to and including a 30 year storm.

3 C Jones (Trevor Crocker & Partners)

Q The speaker referred to sewer records being prepared by two contractors. How was the accuracy of sewer records assessed?

A A performance test was used whereby 5 out of 100 records were selected at random and subject to re-check. Failure occurred usually due to lack of care in initial survey.

JF4ABP

4 P Smith (Babtie Shaw & Morton)

Q What was entailed in the impermeable area survey ?

A 1 : 1250 O.S. streets and on-site 'verification' of up to 10% was undertaken ie detailed 'walk-round'.

5 J Hind (Stockport)

Q Why was mainframe WASSP downloaded to microcomputer ?

A Micro-WASSP was not available. We had staff capable of downloading mainframe WASSP.