

## **YORKSHIRE WATER AMP3 Wastewater Programme – Yorkshire, UK**

**Client:** Yorkshire Water Services

**Value:** £150 million over 5 years



### **Description:**

The development of programme management delivery and reporting expertise and the provision of design and construction services from feasibility, through detailed design, construction, commissioning and handover to meet Yorkshire Water's AMP3 programme. The delivery was incentivised at programme level with a Pain/Gainshare mechanism against increasingly challenging target costs set by the Client. The Gainshare was achieved every year.

Generally, each individual scheme was valued at less than £2m. Some 370 separate projects have been delivered with a total capital cost of £151 million. In years 1 and 2 the majority of projects were sewage treatment and sludge treatment related. Over the final 3 years, the majority of projects have dealt with Unsatisfactory Intermittent Discharges (UID programme) and sewer flooding problems.

Solutions requiring the upgrading of sewage treatment works to meet new RQO standards involved new BOD, SS and ammonia standards and the upgrading of sludge treatment works involved meeting the new ADAS Matrix for all of Yorkshire Water digestion sites.

Sewage treatment projects also involved solving microtrix problems on SBRs and the installation of nitrifying plastic media filters (e.g. Adwick), biological plastic media filters (e.g. Cheesebottom) sand filters for tertiary treatment (e.g. Balby), replacement of screens and screenings handling and pumping stations.

Sludge schemes involved thickening and dewatering (e.g. Old Whittington), upgrades to digesters, which involved new boilers, heat exchangers, gasholders, flare stacks (e.g. Woodhouse Mill) and mixing systems using pumps (e.g. Aldwarke) and gas.

The UID programme addressed aesthetic and water quality deficiencies with Combined Sewer Overflows (CSO) across South Yorkshire and North Derbyshire. Work was undertaken in Drainage Area Zones (DAZs) in Sheffield, Rotherham, Barnsley and Chesterfield. Solutions involved works to abandon, repair, upgrade or replace the CSOs and, where necessary, provide storage to ensure that the new consent requirements were satisfied. Key to delivery of the UID programme was the management of the supply chain. Early involvement of suppliers and subcontractors, coupled with forward knowledge of the programme, enabled the work to be efficiently planned. The programme incorporated innovative solutions, which included precasting, prefabrication and a standardised approach to the design process.

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### **Key Features: Programme Delivery**

- Programme management and delivery
- Delivery incentivised by Pain/Gain (gainshare achieved every year)
- Culture change management focussed on the co-located delivery team
- Innovative solutions, shared learning and continual improvement culture
- Inclusion of construction, commissioning and operations expertise into solution selection and design
- Management of the supply chain with own and Client Frameworks
- Performance management of the whole team based upon KPIs
- Development of a Joint Business Plan with the Client, presented to and shared with the whole team
- Innovative programme management techniques using standard reports and methodologies
- Strong safety culture underpinned by self monitoring and audit
- Management of environmental risks based upon the CDM model
- Small schemes, operational liaison and project closeout methodologies introduced
- All Regulatory outputs achieved on or ahead of programme

### **Key Features: Engineering**

- Wastewater Treatment, Sludge Treatment, UID and sewer flooding solutions
- Plastic media filters for nitrification and biological treatment.
- Sand filters for tertiary treatment
- Sludge thickening and dewatering
- Digester refurbishment including boilers, heat exchangers, mixing gasholders and flares.
- Sludge mixing
- Odour control
- Hydraulic Sewer Modelling
- Water Quality modelling
- Design matrix for CSOs (UID programme)
- CSO construction and provision of catchment storage