

Taunton Clean & Clear

Overview:

Site Location:	Taunton, Somerset
Client:	Wessex Water
Contract Value:	£12,626,000.00
Project Duration:	25 months



Taunton Clean & Clear (C&C) is located within the busy Town centre and surrounding areas of Taunton. The scheme included work areas within the main commercial & retail district within the Town, all main arterial routes, and each of the residential District Metered Areas (DMA) zones.

Taunton C&C's Project Brief was driven by the Drinking Water Inspectorate to reduce the number of customer complaints of water quality within Taunton and the surrounding areas. The majority of the Trunk Mains supplying and distributing water around the town were Cast Iron mains installed in the periods between 1900 -1930, and whilst in the main, these were structurally sound, internally they were heavily corroded. In summary the total scope constructed was:

- Spraylining—19,642lin.m
- Open Cut—17,506lin.m
- Slip lining—3,352lin.m
- Pipe burst—3,000lin.m

Over the contract term Circa. 8km of main refurbishment was 'designed out' by challenging rezoning opportunities and refurbishment requirements.

Taunton C&C utilised the majority of Mains Refurbishment and renewal techniques due to its unique variables. Mains refurbishment was required from 63mm dia. to 450mm, work areas varied from heavily residential/retail through to remote urban. When coupled with huge ranges of integrity of the existing asset, each leg warranted its own review and method selection.

Open cut off line replacement was largely used in the more urban areas where the benefits of maintaining flows within the existing Trunk Mains offset the financial gain of some of the on line refurbishment options. The cost benefit analysis also determined that we could install a new off line main for the same cost as a refurbished main in the field sections of the scheme. Once we entered the more congested areas, and rezoning became an option, other alternatives proved cost beneficial. Spraylining provided the most cost effective method where the structural integrity of the main and size were adequate, and ensured a speedy and hugely reduced Customer impact option. Where the main had lost its integrity, or downsizing was an option Sliplining could match the cost of Spraylining, and provide arguable a better end product. Where the asset had lost its integrity and/or needed upsizing we used our own pipebursting teams and equipment. By covering the majority of the techniques in house and developing our relationship with a Market Leading Spraylining Contractor we were able to offer a totally unbiased solutions proposal to the client and focus on other elements, such as lowest cost, customer benefits and Operational interface.



Taunton Clean & Clear

Innovation on Taunton C&C started prior to Scheme Commencement. Being appointed at Scheme conception stage allowed us to understand the needs of the client and develop a scheme which met these needs. Once appointed, Lewis, were able to review the brief and integrate with the Design Team to provide a full turnkey solution to each section of main. The proposal tabled by Lewis was to carry out a full physical survey of the main with cut outs, innovative NDT testing, window sampling and internal live condition camera surveys. By assessing these samples the Project Team were able to determine the condition, structural integrity and possible refurbishment methods for each individual section. With this information. Lewis CE developed a Cost Benefit analysis sheet. This provided a simple cost/metre rate for each section on each available technique, accompanied by the lifespan improvement it provided the Client. This facilitated the Client the opportunity to tailor the spend to the longevity of the asset.

The only significant Sub Contract on the Taunton C&C Scheme was the Spray lining refurbishment of the mains. This is a specific area of expertise and whilst Lewis CE is an accredited and certified applier of Spraylining Epoxy materials, it is not an area that we felt sufficiently specialist in for a project of this magnitude. Having knowledge of this market, we identified our preferred Contractor at the outset of the scheme and bought these on board to work alongside us developing the solution, understanding the capabilities, risks and merits and most importantly engaging with the client. By doing this we were able to understand key requirements for issues such as sampling, reintroduction of flows, outage durations, alternative rezoning opportunities, chlorination processes etc. By engaging at this early stage we were able to develop a solution which minimised the impact of the scheme on the customer and met and exceeded our clients undertaking to OFWAT.

Early engagement also ensured we understood our proposed Sub Contractors strengths and weaknesses, and were able to assist them in developing to meet the needs of the project. It also allowed us to assess who was best placed to provide each element of the delivery. On this particular Scheme we developed a process where all enabling works including pits/overland riders/rezoning etc were carried out by ourselves with our Subcontractor undertaking the lining works only. By doing this, we maintained overall delivery control and ensured Customer contact points were managed and controlled.

In Value terms the total estimate of the Sub Contract for lining was Circa £1,900,000.00 which represented 15% of the Project Value.



The delivery of Taunton C&C was an unrivalled success within the Wessex AMP 5 period. The scheme was not only delivered to an extremely tight programme but whilst achieving all regulatory outputs, it was delivered significantly below budget. In addition, the scheme was driven to challenge and surpass the expectations of the customer. Through its delivery and despite working on the main arterial routes in to and around Taunton, along with works within the Town Centre and within every residential zone, very few customer complaints were received, and business claims were practically negated. The final accolade to the scheme was the service strike rate, where we pioneered a data capture document recording a successful crossing rate of 3,780 successful crossings, with only 13 minor service strikes giving a strike rate of 0.34%. This compares to a recorded National average of 0.85%. By signing in to the Clients initial budget and committing to deliver the scheme on a 50:50 shared X12 agreement both our and our clients focus was on delivery and this was fundamental in the success of the project.



Lewis Civil Engineering Ltd, Mwyndy Cross Industries, Cardiff Road, Pontyclun, Rhondda Cynon Taff. CF72 8PN

Telephone: 01443 449 200 Fax: 01443 449 201

Website: www.lewis-ltd.co.uk E-mail: enquiries@lewis-ltd.co.uk