

ELIQUO | HYDROK

Case Study

Pile Cloth Media Filtration

Mecana Technology for Thames Water Smaller STW Sites



THAMES WATER

- Rural and smaller STW sites

Eliquo Hydrok were engaged by Thames Water and their principal contractor SMB JV to manufacture and install Mecana units at 16 of their smaller sites over a 2-year time period, with the design phases beginning in February 2018. The 16 sites were part of the Thames Water's phosphate removal programme and being small, rural and unmanned, the filter units needed to be compact, robust and reliable. Two types of Mecana units; of various sizes to suit the loading at each location, were utilised within the overall project with either a Drum Filter tank or Small Disc Filter Tank installed as required.

Eliquo Hydrok designed, manufactured, factory tested, delivered, unloaded, installed, site tested and commissioned all units which were site specific and, based on standard Eliquo Hydrok tank designs and configurations. The 16 sites were to be rolled out in a sequence of 5 batches as directed by SMB JV / Thames Water.

With, site specific adaptations required, the designs incorporated different permutations of filters, inter-connecting pipework and walkways which was achieved based on modular standard units - this achieved economies in design and manufacture, thus reducing cost; this reduction in cost proved an attractive solution for Thames Water. Where required, a flocculation tank with mixing was included on sites.

The overall 16 sites were planned to be installed over a rollout of approximately 2 - 4 weeks per site using the same base installation team which allowed for cost economies, quality continuity and good inter-company working relations. Each installation involved the delivery and lift by a small hiab-lorry, except where overhead cables were identified beforehand which required alternative lift plans such as a mobile crane.



The programme was subject to delivery sequence changes during the overall contract to suit the actual readiness of ground works across the various planned installations. This was a challenge at times because all designs were in varying stages of production; which required the Eliquo Hydrok supply chain to accelerate and decelerate designs and delivery accordingly; to avoid congesting the factory whilst hitting the new delivery dates.

All Eliquo Hydrok Mecana units were manufactured using Grade 304 Stainless Steel and Microfibre Cloth, with each Drum Filter unit having 4-6 sq. metres of cloth, with each Disc Filter unit offering 10-30 sq. metres of cloth.

All LCP's were tank mounted.

The Eliquo Hydrok Mecana - Thames Batch – was delivered under an NCE3 Contract – Option A (Lump Sum and Activity Schedule), with formal communications using the CEMAR web platform.



THAMES BATCH 1 & 2

Six sites across rural Northamptonshire and Oxfordshire.

Installation Completion: May 2019

Eydon STW - Northamptonshire

Mecana TF6 Drum Filter

Flocculation tank with agitators

Bauer connection allowing for future capacity increase



Eydon STW • TF6 Drum Filter

Moreton Pinkney STW – Northamptonshire

Mecana TF6 Drum Filter

Flocculation tank with agitators

Bauer connection allowing for future capacity increase



Moreton Pinkney STW • TF6 Drum Filter

Enstone STW - Oxfordshire

2 x Mecana SF2/10 - disc Filter Unit

Middle Barton STW - Oxfordshire

2 x Mecana SF2/10 - disc Filter Unit

Chipping Warden STW - Oxfordshire

2 x Mecana SF3/15 - disc Filter Unit

Flocculation tank with agitators

Woodstock STW - Oxfordshire

2 x Mecana SF3/15 - disc Filter Unit



Woodstock STW • SF3/15-disc Filter Unit

Technical Data:

- o Tertiary filtration to 12 mg/l
- o Influent TSS @ 35-60 mg/l
- o Max hydraulic flow 52 l/sec.

Tank mounted LCPs for each unit, all associated pipework with AVK gate valves and spare parts.

THAMES BATCH 3

Five sites across rural Oxfordshire and Buckinghamshire.

Installation Completion: November 2019

Horton Cum Studley STW - Oxfordshire

Mecana TF4 Drum Filter

Bauer connection allowing for future capacity increase

Stanton St. John STW - Oxfordshire

Mecana TF4 Drum Filter

Bauer connection allowing for future capacity increase

Ludgershall STW - Buckinghamshire

Mecana SF2/10 - disc Filter Unit

Flocculation tank with agitators

Bauer connection allowing for future capacity increase

Stewkley STW - Buckinghamshire

2 x Mecana SF2/10 - disc Filter Unit

Flocculation tank with agitators

Stone STW - Buckinghamshire

2 x Mecana SF6/30 - disc Filter Unit

Flocculation tank with agitators

Tank mounted LCPs for each unit, all associated pipework with AVK gate valves and spare parts.

Technical Data:

- o Tertiary filtration to 12 mg/l
- o Influent TSS @ 35-60 mg/l
- o Max hydraulic flow 52 l/sec.



Horton Cum Studley STW • TF4 Drum Filter



Stewkley STW • SF2/10-disc Filter Unit with Floc Tank

THAMES BATCH 4 & 5

Five sites across rural Wiltshire, Hampshire and Essex.

Installation Completion: January 2020

White Roding STW - Essex

Mecana TF4 Drum Filter

Flocculation tank with agitators

Bauer connection allowing for future capacity increase

Willingale STW - Essex

2 x Mecana SF2/10 Drum Filter

Flocculation tank with agitators

Abbess Roding STW - Essex

Mecana SF3/15 - disc Filter Unit

Flocculation tank with agitators

Bauer connection allowing for future capacity increase

Wanborough STW - Wiltshire

2 x Mecana SF6/20 - disc Filter Unit

Flocculation tank with agitators

Crondall STW - Hampshire

2 x Mecana SF6/30 - disc Filter Unit

Flocculation tank with agitators

Tank mounted LCPs for each unit, all associated pipework with AVK gate valves and spare parts.


Technical Data:

- o Tertiary filtration to 12 mg/l
- o Influent TSS @ 35-60 mg/l
- o Max hydraulic flow 52 l/sec.



Wanborough STW • 2 x SF6/20-disc Filter





Mecana Technology for Thames Water Rural,
Un-manned and Smaller STW Sites

ELIQUO HYDROK LTD

Indian Queens Ind Estate, St. Columb

Cornwall, England | TR9 6TL

T +44 1726 862000

sales@eliquohydrok.co.uk | www.eliquohydrok.co.uk

MEMBER OF **ELIQUO WATER GROUP**