



A BLUEWATER BIO TECHNOLOGY

Brockhampton STW, Phosphorus Removal

Project Description

Brockhampton STW is a medium sized activated sludge works treating the Cheltenham catchment, comprising domestic sewage, trade effluent and the effluent from the Cheltenham race course. The works treats a FFT of 105 l/s. The consent limits are: TSS 25 mg/l, BOD 15 mg/l, AmmN 5 mg/l.

In AMP6, under the Water Framework Directive (WFD), the site has to meet more stringent standards, including a new total phosphorus (TP) consent of 0.25 mg/l, and Fe of 4 mg/l. To achieve these new consent standards, Costain (Severn Trent's main contractor) installed a chemical dosing facility and a **FilterClear®** plant. The decision was made based on a comprehensive whole life cost (WLC) assessment of various tertiary solids removal (TSR) plants.

The **FilterClear®** plant was fully assembled and hydraulically tested off-site at **Bluewater Bio's** works, before being transported to site for installation on a flat concrete slab.

Scope of Works

Design, procurement, manufacture, installation and commissioning of **Bluewater Bio's** proprietary **FilterClear®** 4v2040 plant. Fully automated and instrumented tertiary filtration system for Total Phosphorus removal for the works final effluent. MCC and cabling by main contractor.

Project Duration

Award to delivery to site ~ 12 weeks
 Installation time ~ 4 days
 Commissioning time ~ 8 days

Client Contact

Client organisation: **Severn Trent**
 Contact person: **Jeremy Swift** (MEICA Manager)
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Project Name:	Brockhampton STW
Client:	Severn Trent
Capacity:	105 L/s ; 16,000 PE
Main Contractor:	Costain UK
Project Scope:	Design, supply & commission

Project Highlights

- Off-site manufacture
- Consent of 0.25 mg/l TP and 4.0 mg/l Fe
- Rapid installation and commissioning
- No separate flocculation tank needed

Brockhampton STW Process Parameters

DWF	4,220 m ³ /d
FFT	9,072 m ³ /d (82 l/s)
Design Influent TSS concentration*	34 mg/L ave
	39 mg/L 95%ile
Influent TP concentration	1 mg/L 95%ile
Effluent TP consent	0.25 mg/L (average)
Effluent Fe consent	4.0 mg/L

*includes allowance for chemical dosing.



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