



A BLUEWATER BIO TECHNOLOGY

## Wellesbourne STW, Phosphorus Removal

### Project Description

Wellesbourne Sewage Treatment Works (STW) is a medium sized activated sludge plant (ASP). Under the Water Framework Directive (WFD), the site had to meet a new total phosphorus (TP) consent of 0.4 mg/l, and an iron consent of 4mg/l.

To achieve these new consent standards, MMB (Severn Trent's delivery partner) installed a **FilterClear**® plant with 1<sup>st</sup> point ferric dosing upstream of primary settlement and a 2<sup>nd</sup> point ferric dose into a static mixer upstream of the **FilterClear**® plant. The decision was based on a comprehensive whole life cost (WLC) assessment of various tertiary solids removal (TSR) plants.

The **FilterClear**® skid was assembled and hydraulically tested off-site at Bluewater Bio's works, before being transported to site for installation on a flat concrete slab. The plant was designed to allow a 4<sup>th</sup> filter to be added in the future, as the flow is expected to increase.

### Scope of Works

Design, procurement, manufacture, installation and commissioning of **Bluewater Bio's** proprietary **FilterClear**® 3V1840 plant. Fully automated and instrumented tertiary filtration system for total phosphorus removal.

### Project Duration

**FilterClear**® delivered: March 2021

Installation time ~ 2 weeks

Commissioning time ~ 2 weeks

Compliant by: April 2021

### Client Contact

Client organisation: Severn Trent

Contact person: Lewis McGregor  
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### Wellesbourne STW Process Parameters

Average Flow	1,752 m <sup>3</sup> /d
Maximum Flow	3,984 m <sup>3</sup> /d (46 l/s)
Design influent TSS concentration*	32 mg/L (average)
	45 mg/L (98%ile)
Effluent TP consent	0.4 mg/L (average)
Effluent iron consent	4 mg/L (95%ile)

\*includes an allowance for chemical solids



Project Name:	Wellesbourne
Client:	Severn Trent
Capacity:	46 L/s
Main Contractor:	Mott MacDonald Bentley
Project Scope:	Design, supply & commission

### Supplementary information

- Off-site manufacture
- Consent of 0.4 mg/l TP and 4 mg/l Fe
- Rapid installation and commissioning
- No separate flocculation tank needed



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