

FilterClear®



A BLUEWATER BIO TECHNOLOGY

Cheddar STW, Phosphorus Removal

Project Description

Cheddar Sewage Treatment Works (STW) is a medium sized oxidation ditch works. In AMP7, under the Water Framework Directive (WFD), the total phosphorus (TP) consent is tightened from 2 mg/l to 0.7 mg/l, and Iron consent is 4 mg/l. To achieve these new consent standards, Wessex Water installed a **FilterClear®** plant.

The decision was based on a comprehensive whole life cost (WLC) assessment of various tertiary solids removal (TSR) plants. As the TP consent is fairly relaxed, further cost saving were achieved by treating partial flow using 3 filters and leaving a space for the 4th filter if the TP consent becomes more stringent in the future.

The **FilterClear®** skid was assembled and hydraulically tested off-site at Bluewater's works, before being transported to site for installation on a flat concrete slab. The site was commissioned with Ferric dosing for P removal, and the **FilterClear®** performance demonstrated that the compliance can be achieved reliably.

Scope of Works

Design, procurement, manufacture, installation and commissioning of **Bluewater Bio's** proprietary **FilterClear®** 3V2340 plant. Fully automated and instrumented tertiary filtration system for Total Phosphorus removal.

Project Duration

FilterClear delivered: January 2022

Installation time: ~2 weeks

Commissioning time: ~2 weeks

Client Contact

Client organisation: **Wessex Water**

Contact person: **Andrew Gulliford**
(Process Manager)



Project Name:	Cheddar STW
Client:	Wessex Water
Capacity:	80 L/s
Project Scope:	Design, supply & commission

Project Highlights

- Off-site manufacture
- Consent of 0.7 mg/l TP and 4 mg/l Fe
- Rapid installation and commissioning
- No separate flocculation tank needed

Cheddar STW Process Parameters

Average flow	67 l/s
Maximum flow	80 l/s
Design Influent TSS conc. (incl. chemical solids)	48 mg/L (average) 55 mg/L (98%ile)
Effluent TP consent	0.7 mg/L (average)
Effluent Fe consent	4 mg/L (95%ile)

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