

atac



Case Study Advanced Phosphorus Removal at West Suffolk WRC

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Project Overview

ATAC Solutions recently delivered a major upgrade at a wastewater recycling centre (WRC) in West Suffolk, successfully achieving the Environment Agency's stringent 0.5 mg/L phosphorus consent. This project highlights how ATAC's engineering expertise, innovative thinking, and practical problem-solving deliver reliable compliance and environmental protection.

Project Requirements

- ↻ Total Suspended Solids (TSS):
Avg. 10 mg/L
- ↻ Total Phosphorus (Annual Mean):
0.5 mg/L
- ↻ Iron (95%ile): 4 mg/L

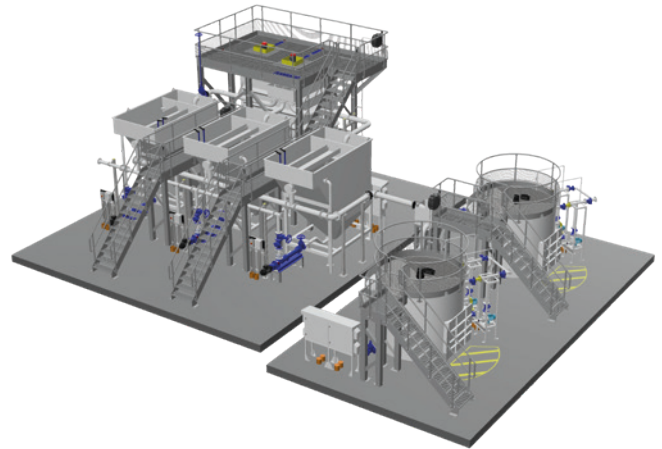
Due to the exceptionally high influent solids concentrations (up to 180 mg/L), Lamella settlers alone could not reliably achieve the 10 mg/L TSS and 0.5 mg/L phosphorus consent. By incorporating MITA cloth filters as a polishing stage, we ensured consistent compliance, while also managing filter backwash liquors via a dedicated return and sludge holding system to maintain long-term performance.

Our Solution

ATAC designed and installed a bespoke four-stage treatment process, combining proven technologies with advanced process control:

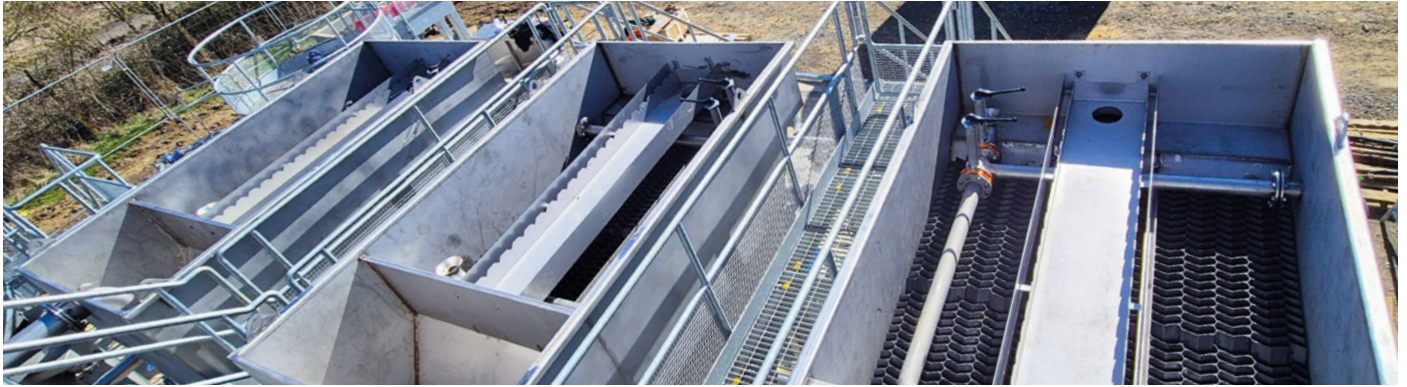
- ↻ **Flash Mixing Tank (2 m³):** Rapid mixing chamber for precise coagulant dosing and uniform distribution.
- ↻ **Flocculation Tank (8 m³):** Gentle paddle mixing for strong, stable floc formation.
- ↻ **3 × ATAC ATL 50 Lamella Settlers:** High-rate solids separation to remove phosphorus-rich flocs.

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- **2 × MITA 6/30 Cloth Filters:** Advanced tertiary filtration to capture residual fines and suspended solids.
- **Integrated Control System:** Timer-controlled progressive cavity pumps for backwash management, with operator control via HMI.

Overcoming Challenges

During installation, hydraulic constraints arose when a third party cast the MITA filter slab at the same level as the Lamella slab. To maintain the hydraulic gradient, ATAC's site team lifted the entire Lamella installation by 40 mm, ensuring both system performance and project deadlines were met.

Results

- Consistently achieved <0.5 mg/L phosphorus discharge.
- Reduced TSS to <10 mg/L.
- Maintained full compliance with Environment Agency consents.
- Positive customer feedback on both installation quality and system performance.

This project reinforces ATAC's commitment to delivering flexible, robust, and site-specific treatment solutions that exceed expectations while protecting the environment.



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