Capital Delivery Alliance
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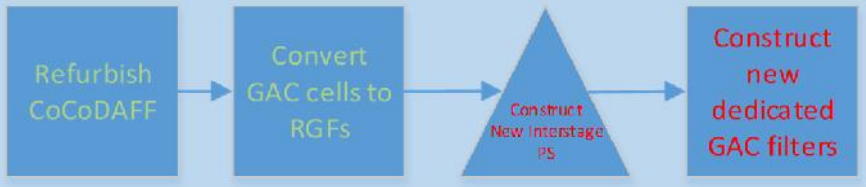
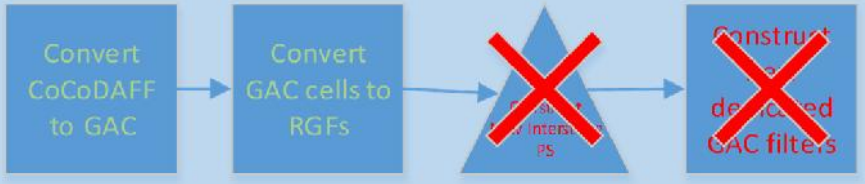
Glascoed WTW: Improving treatment resilience with minimal build solutions saving cost and carbon

Changes in climate and land use had been creating a treatment challenge at Glascoed WTW. Iron, manganese, organic carbon and taste & odour compounds were increasing in the raw water. The existing CoCoDAFF process was operating beyond design parameters and the existing GAC process did not provide sufficient treatment capacity. Additional seasonal PAC dosing was implemented to reduce taste and odour risk – which was both cost and carbon intensive whilst also having a detrimental impact on sludge treatment at the site. A Scheme was released to the Capital Delivery Alliance to address the issues on site.

Conventional solution:



Low build solution:



The conventional solution would have required construction of a new GAC stage and interstage pumping station.

To avoid the need to build new assets, an innovative trial was conducted where the conventional filter media was removed from a CoCoDAFF cell and replaced with GAC - a first in the UK water industry. This performed well and so the rest of the cells were converted. The existing GAC cells were reverted back to conventional RGFs for manganese removal.

The solution saved c. £3.5m CAPEX and 665t of carbon.

Benefits:

- This demonstrates the first point of the carbon hierarchy – build nothing.
- The need for seasonal PAC dosing was removed.
- The low build solution also reduced construction time and health and safety risks.