Suspended Solids, Dissolved Metals and Hydrocarbon Removal

Surface Water Discharge Compliance

End Client
Balfour Beatty Vinci JV

Location
WWH Main Compound, Drews Lane, Birmingham, B8 2QE

Asset
WTS20 + SRT10 + GAC Filter

Services
Installation, Commission, Training and Scheduled Routine Maintenance

"Beyond the technical benefits, OSSO's team has been outstanding in their support. They have integrated seamlessly into the project, providing quick and efficient service that minimises equipment downtime. Their proactive approach in tailoring solutions to meet the complex needs of the site has been invaluable. OSSO has not only facilitated compliance but also delivered real cost and carbon savings for the project."

Graham Parkes – Environmental Manager, BBV

The challenge

To treat site surface water run-off contaminated with slow settling solids, dissolved metals and Poly Aromatic Hydrocarbons (PAHs) to facilitate increased site resilience by removing dependence on discharging to foul sewer network and enabling the client to discharge compliant waters directly to surface watercourse under an ERP permit.

How we helped

OSSO installed a turnkey solution designed to treat flows of up to 40m^3/hr comprising a WTS20 (automated solid proportional dosing system), pumping equipment, forwarding tanks and granular activated carbon vessel.

Following a trial period where discharge sampling confirmed water quality compliance with criteria set out in the ERP permit, regulatory approval was granted to discharge the treated waters directly into the surface watercourse which increased the volumes of water that our client could remove off-site.

The primary objective of the WTS20 was to facilitate both the removal of suspended solids to below 30 mg/l and removal of dissolved metals to below Environmental Quality Standards (EQS) by co-precipitation. The upfront front treatment was also designed to protect the lifespan of the granular activated carbon, need to remove the dissolved hydrocarbon phase, which would otherwise get blinded off by the sediments and metals within the water.

Following delivery, OSSO engineers completed commissioning and carried out weekly visits for the first six weeks to ensure the installation was operating correctly and supporting the clients site operatives to become familiar with the standard operating procedures of the water treatment plant.

Strong results

Over an 18-month period, the water treatment plant, treated and safely discharged 64,000 m^3 of water to the River Tame. Testing analysis conducted by client showed no breaching of permit for pH, TSS or dissolved PAH concentrations.

The installation of the water treatment plant eliminated the need for approximately 2,125 tanker movements and the associated disposal costs, avoiding an estimated £3.2 million in total tankering costs. When compared to the costs of treating at source, there was a 91% saving during this time period.