

CASE STUDY

Melton



The issue

Suprafil were awarded a £150,000 contract to improve the efficiency of the aeration process at Melton on behalf of Severn Trent Water via delivery contractor Air Technology limited.

The existing Severn Trent Water site was being aerated with surface aerators which required upgrading. The effluent is a mixture of domestic and industrial effluent from a pet food manufacturer.

The solution

More efficient aeration, with future maintenance in mind

Suprafilt recommended a liftable grid system, which allowed more efficient aeration to be installed within a live tank, and also for maintenance purposes in the future.

The liftable grid system allows the operators to lift the grids out to change any worn membranes without having to drain the tanks.

The stainless steel liftable grids were fitted with OM 2m stainless steel bdd diffusers. The project also included new blowers, new air main, tank header, three lift out grids in each zone providing tapered aeration.

All pipework and installation were provided by Suprafilt's in-house team.

Strong project management on the project was crucial to ensure the process wasn't interrupted.



Suprafilt went above and beyond the call of duty, carrying out additional work like emptying tank and moving pumps to ensure the project stayed on track.

“A director of Severn Trent Water visited the site and was very impressed.

“Suprafilt were flexible and able to get the job done, whilst maintaining their high levels of quality and safety.

Nigel Goerick,
Consultant Engineer at Air Technology Limited



The result

Energy and maintenance savings worth £94,000 per annum

Suprafilt helped Severn Trent Water to achieve energy and maintenance savings worth £94,000 by installing three liftable grid aeration system in each of the 5 aeration zones at Melton STW.

The work has helped to achieve an energy saving of £84,000 and annual maintenance savings of around £10,000 per annum.

The improved system has also resulted in a CO2 saving of 402 tonnes a year.

It has also improved the effluent quality going to the nitrifying filters biofilter, with the BOD going from over 30mg/l to consistently less than 5mg/l.

Summary

The liftable grid aeration led to significant energy and maintenance savings worth £94,000 per annum, and improved the effluent quality.

This represents a payback in under two years. The improved system has also resulted in a CO2 saving of 402 tonnes a year – the equivalent of four return flights to Spain or 8 trips to the moon in a car.