

Case Study

Type: Sludge Cleaning Plant

FPE designed and built a Sludge Cleaning Plant in 2010 for a Maltings Plant in Yorkshire, with the aim of reducing the volume of sludge being disposed of from the effluent treatment system.

The effluent plant produced approximately 4,300 kg/year of sludge that was disposed at a cost. The sludge contained on average 2% dry solids, the remaining 98% being water. From this information and site surveys, FPE produced a bespoke solution to this problem, reducing the volume of the sludge disposed of by 80% and massively reducing the disposal costs for the sludge.



The raw sludge is firstly passed through a rough filter to ensure large particle contaminants (leaves, worms etc.) are removed. The sludge is then fed via a pump into a Centrifuge. This rotates at high speeds and as such the water and solid contents are separated due to the different specific gravities of the two materials. The de-watered sludge is then discharged into a container for disposal, and the water is fed back into the effluent treatment system for further processing.

By removing the solids from this large volume of water, the effluent treatment plant is able to clean the water phase to a sufficient quality that it is suitable for discharge into the local river. This has dramatically reduced the costs associated for disposal of the sludge and means the full installed system will pay for itself in two years.

We designed this system specifically for the location it was to be installed, creating a platform and walkway to allow the sludge container to be located underneath the centrifuge. An insulated acoustic cabinet was provided to ensure the equipment was protected from the weather and conformed to the customers noise level requirements.



MODEL	Sludge Cleaning Plant
CAPACITY	Up to 4,500 tonnes/year
RAW SLUDGE DS	2%
CLEAN SLUDGE DS	10%
SLUDGE DISPOSAL BEFORE	4,300 tonnes/year
SLUDGE DISPOSAL AFTER	860 tonnes/year
MAX INSTALLED POWER	30 kW

