West Sussex Landfill, United Kingdom

Background
The West Sussex Landfill disposes leachate in two ways. Firstly, by off-site hauling at a cost of approximately $35/1,000 litres. Secondly, the landfill uses an on-site biological treatment utilizing a sequential batch reactor (SBR) followed by discharge to public sewer. The on-site leachate treatment system could not achieve the desired treatment outcomes.

Objectives
Use BiOWiSH™ technology to biologically pre-treat strong leachate on-site and to reduce ammonia concentrations. The end goal is to increase the volume of leachate suitable for adding to the SBR for final treatment and discharge.

Outcome
Testing showed that leachate ammonia levels were reduced from approximately 2,000ppm to approximately 500ppm, after four days of biological treatment using only BiOWiSH™. The graph below illustrates the significant reduction.

Pre-treated leachate was suitable for processing by the SBR in a single batch, which was a significant improvement on the 9,500-19,500 litres of raw leachate normally introduced at one time.

BiOWiSH™ Odor Benefits
- Removes odors at source
- Reduces Volatile Organic Compounds (VOC) emissions
- Helps break down organic waste
- Reduces waste volume
- Accelerates composting time
- Improves leachate water quality
- 100% natural and non-toxic

BiOWiSH™ Available sizes
- 100g
- 1kg
Detailed Implementation Program

BiOWiSH™ was applied on four successive days to a single 72,000 litre batch of strong leachate, which was being aerated in an outdoors tank located near the SBR. Pre-treated leachate was pumped into the SBR on Day 5.

The product was pre-activated and applied in step-reduced doses (20ppm Day 1, 10ppm Day 2, 5ppm Days 3 and 4). Preparation involved mixing BiOWiSH™ with clean water and a smaller volume of raw leachate, followed by aerating the mixture for 24 hours before pumping it into the treatment tank.

Benefits

• Increased on-site leachate treatment throughput
• Reduced leachate volume being hauled off-site
• Financial savings in the form of lower disposal costs.

Contacts

BiOWiSH Technologies

Email: environment@biowishtech.com