

Section 2 Re-seeding

From time to time wastewater plants can require a re-seeding programme. The most common reason for such an action is to counteract an unforeseen loss of sludge. There are a number of reasons why sludge can go “over the weir” and it is paramount that the initial cause is rectified prior to a re-seeding programme. This can be determined by a site-visit where required.

Loss of sludge can be due to a toxic shock in the influent, a hydraulic overload or merely a mechanical failure. By creating such a harsh environment, the usual heterotrophic bacteria are often out-competed by filamentous bacteria.

All of this leads to dirty water coming in to a plant and leaving in a similar or worse condition. The operator must build back up their sludge level to a suitable level to resume normal operations. The most significant problem is that newly added bacteria must be settled and re-circulated as “sludge return” to allow the process to take place. This is hindered by a lack of natural bacterial extracellular polymer (ECP) and the presence of filaments that obstruct the settlement process (bulking).

Nutrient addition is beneficial in a re-seeding scenario, as the juvenile bacteria are unable to demineralise the influent at a sufficient speed to provide vital nitrogen, phosphorous and trace elements.