



Due to the very nature of the wedding venue business, the waste from events results in large peaks and troughs with respect to the flows and loads received by the waste water treatment plant. Many Package Treatment plants are at a disadvantage as they do not perform at their best with feast and famine flows experienced over the course of a wedding season.

The owner's loss of confidence in his old plant left him wondering if it would meet the site's legal numerical obligations outlined within the EA permit, thereby prompting the decision to invest in a new treatment works.

The choice of installing a Bio-Bubble was relatively easy, when one combines the proven process track record and experience with more difficult waste streams, alongside the owner's knowledge having been forced to learn and understand the measures needed to ensure ongoing compliance with a hamstrung system.

An added bonus for the owner was the realisation that he and his staff could be far less hands on having a Bio-Bubble, with a Service Level Agreement provided by Advanced Aeration Ltd, process management experience on tap, daily remote monitoring and emailed reports he is able to take a step back from any waste issues.

The design approach when sizing a Bio-Bubble for a feast and famine loading is to calculate peak and off-peak load days, both hydraulically and organically and spread by averaging over the course of a whole week, thus avoiding oversizing the equipment on account of a number of very busy days.

The raw waste is stored and mixed within a single Balance Tank to even out the peaks and troughs with the organic strength of the waste. Twice each day the volume accumulated within the Balance Tank is assessed at a "Data window" at which point the system decides how much to discharge to make sufficient space in order that the Reactor can be refilled back up to its maximum Top Water Operating Level, the point at which the aeration is the most efficient.

Further to consistently producing low polluting and low nutrient final effluent, if one measures carbon footprint by the number of tanker movements required to manage the sludge levels then the Bio-Bubble scores again with sludge production at 1/10th of some other package systems.