



# The Barn Upper Boddington

## Case Study



### BACKGROUND

Owners of The Barn (a plot of land in Upper Boddington) earmarked the site to build a one-bed family home. As their new off-grid property would be off the mains sewerage network, they needed to find a reliable solution to manage their wastewater – one that was not only highly efficient, but also complied with health and environmental regulations. Given the wastewater system would be fitted ahead of the building works, it was also essential that it could be plugged in easily after completion.

### SOLUTION

The expert team at GRAF UK sized, designed, supplied, installed and commissioned a 5 PE One2Clean sewage treatment plant. This works by treating waste in batches using a series of chambers to allow for consistent, efficient performance. It provides a high discharge quality of up to 99 percent, so the owners were able to exceed effluent quality requirements set by the Environmental Agency. The system also includes an additional buffer tank to minimise the risk of untreated waste overflowing. What's more, its self-anchoring design meant the base of the excavation could be filled with non-angular rocks as opposed to concrete – significantly cutting the costs and duration of the installation. Because the GRAF UK One2Clean wastewater tank used at The Barn is injection-moulded using sturdy Duralen® plastic, it has the same thickness all around and has no weak points whatsoever. This makes it extremely strong and therefore suitable for vehicle loading when used with a cast iron lid.

### RESULTS

Once the system is up-and-running, the clear, odourless treated effluent will be released into a nearby watercourse with no risk to the environment or public health. In fact, GRAF UK systems of this type consistently surpass the minimum Environmental Agency limit values of 20, 30 and 20 milligrams per litre for biochemical oxygen demand (the amount of degradable organic matter in the water), suspended solids and ammoniacal nitrogen (the quantity of ammonia) respectively – achieving the levels 7, 14 and 0.5 in milligrams per litre.

“ This install really showcases the advantages of the One2Clean system. It was a one-day, two-man job, with just one installer and one digger on site. The beauty of these products is that no complex machinery is required – you just need a tool box. Now that the treatment plant is hidden beneath the ground, you wouldn't know it was there at all. It works as it's supposed to, unaided, with only a small green lid visible. Because there is no electricity or moving parts in this system, you also know there is no risk of anything breaking down. ”  
Bogdan Chira, Project Manager at GRAF UK