



# 150PE Klaro XXL Loch Leven's Larder, South Perthshire

## Case Study



### BACKGROUND

Located on the banks of Loch Leven in Kinross, South Perthshire, the family-run Loch Leven's Larder is an award-winning Scottish attraction with more than 300 visitors daily during a high season. It boasts a working farm, a restaurant, a deli, a gift shop and a playground. Renowned for its wintering and breeding wildfowl, the loch has been designated as a Special Protection Area (SPA) by the Scottish Environment Protection Agency (SEPA). To comply with the agency's stringent phosphate and nitrate discharge requirements, Loch Leven's Larder needed to replace its deficient wastewater treatment system with a cleaner, more efficient alternative. Having already opted for a GRAF UK wastewater treatment system at his own home nearby, owner Robin Niven chose to work with GRAF UK again on this project.

### SOLUTION

GRAF UK specified and designed a bespoke solution large enough to service the needs of up to 150 people - consisting of a Klaro XXL wastewater treatment system, two 32,000-litre Carat XXL tanks and a phosphate-dosing pack. Contractors Stewart Robb Plant Limited, who regularly work with GRAF UK in the region, were then called in to install the new system.

### RESULTS

Loch Leven's Larder needed to limit phosphate discharge to a maximum of 2mg/l to meet SEPA criteria. Now the new GRAF UK system is up and running, it is vastly exceeding this - delivering phosphate levels of just 0.2mg/l. The Klaro wastewater treatment plant uses sequencing batch reactor (SBR) technology to effectively and efficiently treat waste. It features two chambers - one to hold back the solids, and the other to treat the wastewater using an aeration process. Microorganisms biologically clean the water, allowing sludge to sink to the bottom and a clarified water zone to form at the top.

**“** *We're absolutely delighted - and relieved - to have finally found a fully compliant system that can provide us with long-term, reliable wastewater treatment. It's a real weight off our shoulders, and we can now just go about our daily business of running the farm, the shop and the restaurant, knowing that the only maintenance required is an annual check up to ensure the smooth running of the system.* **”** Rob Niven, Owner of Loch Leven's Larder