



# Riverside Quarter Mugiemoss Aberdeenshire

## Case Study



### BACKGROUND

When tasked with finding an efficient and compliant stormwater management system for a large Barratt Homes development in Mugiemoss' Riverside Quarter, contractor WM Donald enlisted the expert help of Aberdeenshire water specialist Filpumps. They approached GRAF UK for a durable solution that would not only protect the development against flooding, but would also work with the site's unique, hilly profile. It was also key for the system to meet Scottish Water's stringent run-off criteria of just 35.1 litres per second.

### SOLUTION

The expert team at GRAF UK specified, designed and installed two bespoke stormwater attenuation systems, which were fitted in two phases. During the first phase, a 1,929m<sup>3</sup> two-tank system was installed. It was built using 2,120 heavy-duty EcoBloc Maxx modules (suitable for positioning deep underground), 6,200 EcoBloc Light crates (a lightweight version for shallower applications), and 140 EcoBloc Flex modules (with in-built inspection channels for easy maintenance). During phase two, a second, 1,678m<sup>3</sup> system was fitted consisting of 7,189 EcoBloc Maxx and 146 EcoBloc Flex modules.

### RESULTS

Due to the hilly profile of the site, part of the stormwater system needed to be deeper underground than the rest. GRAF UK's solution was a two-tank system created using a mixture of EcoBloc Light, Flex and Maxx modules. The first tank required a minimum earth covering of just 560 millimetres, whereas the second needed a minimum cover of 1,220 millimetres. This meant that the team could use heavy-duty EcoBloc Maxx crates where the earth covering was greater than 560 millimetres, and opt for the lighter model everywhere else to cut the cost of using heavy-duty modules where not absolutely necessary. The system installed in Mugiemoss was built with enough capacity to resist the kind of extreme storm only likely to happen once in a 100-year period, with an additional 20% contingency buffer for climate change on top of this. This ensures complete peace of mind for everyone – including the developer and future residents.

**“** We chose to work with GRAF UK again because we knew the team would be able to offer a reliable, cost-effective solution – managing every stage of the project independently and efficiently. Even more importantly for us, GRAF UK delivered both phases within a very tight timeframe. The installers who came in to fit the system were extremely professional. **”** Syd Ross, water and wastewater specialist at Filpumps