

Case Study

Central Quay, Glasgow

SDS protects Scotland's largest build-to-rent mixed use development from the risk of flooding



SDS Systems

SDS Aqua-Swirl® AS-2 and AS-3 Hydrodynamic Separators.
SDS GEOLight® Attenuation Tank.

SDS Customer

4DStructures.

Client

Unite Students;
Summix;
Platform.

Project

Central Quay Redevelopment.

Purpose

To transform a long-neglected brownfield site into a thriving, sustainable riverside neighbourhood that delivers new housing, student living, commercial opportunities and public spaces, while supporting Glasgow's wider regeneration objectives.

Brief to SDS

To supply a comprehensive surface water treatment and attenuation solution ensuring both environmental compliance and project sustainability.

Timing

From 2022 until the late 2020s. SDS installations were completed in Autumn 2025.

Project Background Information

Located in Glasgow's Anderston district, Central Quay occupies a 4.4-acre site adjacent to the River Clyde and includes the modernisation of an existing 80,000 sq ft office building. The wider site, formerly home to the Harland & Wolfe Finnieston Diesel Engine Works, has remained derelict for over half a century.

The redevelopment of Central Quay marks a major milestone in the transformation of Glasgow's western riverside and aims to deliver a vibrant, high-density urban neighbourhood comprising residential apartments, purpose-built student accommodation, commercial and office space, and high-quality public realm. The approved scheme provides 409 new

residential apartments and 934 student beds across four buildings, along with 11 commercial units, new public spaces, roof gardens, and a central plaza.

The regeneration project is expected to contribute £7.7 million of annual spending to the local economy and generate 650 construction jobs per year throughout the build programme.

Project Objectives

To support the delivery of a sustainable mixed use riverside development by implementing a surface water management system that, by mitigating flood risk, protects surrounding infrastructure, ensures compliance with environmental regulations, and contributes to further regeneration of the River Clyde corridor.

Project Requirements

The scale of the Central Quay development, combined with its dense city-centre location and immediate proximity to the River Clyde, created significant surface water management challenges. Large areas of impermeable roofs, pavements and access roads meant that heavy rainfall could generate high volumes of runoff in a short period of time. Without intervention, this would increase flood risk on-site and place additional pressure on downstream drainage infrastructure. The drainage system also needed to provide reliable pollutant removal — including suspended solids and hydrocarbons from vehicles and hard surfaces — whilst still delivering sufficient attenuation to control peak flows into the river. To align with sustainable urban drainage principles, the solution had to be discreet, low-maintenance and compatible with the constraints of a high-density brownfield redevelopment.

SDS Product Features

To meet the site's water treatment requirements, SDS supplied two Aqua-Swirl® units of different sizes, each serving a separate drainage catchment within the development. These catchments include roofs, access roads and hard landscaped areas where runoff can carry sediment, oils and hydrocarbons from vehicles and surface wear. The larger unit was selected to manage higher flows from the main hard-surfaced areas, while the smaller unit provides targeted treatment for

secondary areas with lower volumes but still notable pollutant loads.

The GEOLight® attenuation system provides 283m³ of storage, regulating stormwater discharge to the River Clyde at controlled rates agreed with Scottish Water. Installed with prefabricated Weholite manholes and flow control chambers, the system ensures easy inspection, low maintenance and long-term resilience.

Issues Overcome

The regeneration of Central Quay demanded a compact, highly effective solution capable of protecting the River Clyde while fitting within a constrained city centre site. SDS worked closely with the project team and drainage engineers to ensure the system was correctly sized, sited and installed to deliver optimal performance without impacting construction timelines. By combining treatment and attenuation, the solution addresses both pollution control and flood management, reducing the burden on downstream drainage infrastructure and supporting the wider sustainability goals of the development.

Results

The installation of SDS Aqua-Swirl® treatment devices and the GEOLight® attenuation tank at Central Quay ensures that surface water discharged from the development is treated to a high standard and released in a controlled manner, protecting the River Clyde from pollution and excessive runoff. The system also provides resilience for the development itself, safeguarding new buildings, basement levels, pedestrian walkways and car parking areas from flood risk within this high-density urban context.

This integrated approach supports Glasgow's environmental and sustainability objectives while contributing to the long-term resilience of the site. Combined with energy-efficient buildings, green roofs, EV charging infrastructure, and new habitat planting, the SDS systems help establish Central Quay as a model for sustainable mixed-use regeneration on brownfield land. SDS continues to support the project in delivering a safe, vibrant and environmentally responsible neighbourhood that reconnects the River Clyde with the city and sets a new benchmark for urban regeneration in Glasgow.

Paul McMenamin, Contracts Manager, 4DStructures, said: "SDS provided a surface water management solution that supported the Unite Central Quay project. Communication with the project team was clear and well-coordinated, ensuring work could progress smoothly in a busy city centre location. The system was designed to fit neatly into the available space, avoiding complications with the wider construction."



Images kindly supplied by Summix.