

Case Study

Banchory Wastewater Treatment Works



Client:

Scottish Water

Principal Contractor:

ESD

M&E sub-contractor:

Colloide

Location:

Banchory Aberdeen,
Scotland

Project:

Bridge Scraper System

Colloide while working with ESD Water for Scottish Water, has undertaken a significant project in Banchory involving the construction of a Humus tank full fixed bridge scraper. This case study highlights the scope of the project and the key components provided by Colloide to optimise wastewater treatment processes.

The project aimed to enhance the functionality of a diameter 9000mm tank in Banchory by replacing cable glands and conducting dry commissioning on-site. The primary objective was to improve the collection and removal of settled sludge and scum from the tank, streamlining the wastewater treatment process.

Technical information

The main components of the system

The bridge will be fitted with a heating element to prevent ice build-up on the tank wall. The heating element will be running while the bridge is running.

Included in the system is also:

- **Bridge Rotation:**

The bridge rotates consistently to gather settled sludge at the tank's central hopper.

- **Diffusion Drum:**

This component evenly distributes and diffuses wastewater, optimising its treatment.

- **Scrapper Blades, Scum Baffle, and Weir Plates:**

Premium scraper blades, scum baffle, and weir plates enhance sludge and scum removal efficiency for effective wastewater treatment.

Operation and Safety Features

The Humus tank's full bridge scraper operates meticulously for optimal performance. Key functions include:

1. **Sludge Removal:** Collected sludge at the tank's center is discharged via gravity by opening a valve, allowing smooth flow into the collection chamber.
2. **Scum Disposal:** Scum is efficiently drawn from the tank's surface using a scum blade and a specialized removal system.
3. **Emergency Stops and Safety:** The bridge scraper features a STOP function on the control panel, along with two strategic emergency stops on the bridge for swift responses. The bridge remains inactive until emergencies are cleared.

