

Case Study:

Tipping Buckets Storm Tank Flushing System



Site: Usk

Client: Welsh Water

Project: Tipping Bucket Storm Tank Flushing System

Main Contractor: Morgan Sindall

Completion Date: 2024



Scope of Contract:

The scope of works included the design, manufacture, supply, offload, contract lift, install, test and commission 4 No. tipping buckets and associated wash water supply pipework and valves.

Background:

We were approached by Morgan Sindall to come up with a design for flushing 4 existing tanks on the Usk WWtW owned and operated by Dwr Cymru (Welsh Water).

The project was not straight forward as the existing tanks had a sloped side wall and no sump.

The lack of a sump was overcome by the use of “ski ramps” at the end of the tank to retain the flush water. The buckets themselves were mounted on elevated frames to ensure effective flush velocity and cleaning. After a storm event, a signal is received from a level sensor mounted in the tank sump, which opens the solenoid valve on the fill pipework.

The bucket fills continuously until the tipping point is reached and the bucket drops its contents against the rear wall flushing the tank.

A proximity sensor mounted on the bucket detects the tip and closes the solenoid valve.

Tank Dimensions:

Tanks 1 & 2:	9.5m L x 4.8m W x 2.2m D
Tank 3:	3.7m W x 2.2m D
Tank 4:	3.5m W x 2.2m D
Gradient:	1:50

Description of plant:

2 No	4.3m Long x 300l/m 304SS TB
1 No	3.2m Long x 200 l/m 304SS TB
1 No	3.0m Long x 200 l/m 304SS TB

50m Wash water fill pipework c/w isolation & solenoid valves

For more information, please contact us:

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