

CASE STUDY

Ferric Dosing Plant



DPS were engaged by Water Solutions Ireland (WSI) on behalf of Northern Ireland Water to design, manufacture, supply, install and commission a new Ferric storage and dosing system.

This included a bulk storage tank and dual contained dosing pipework across 3 Wastewater Treatment Works (WwTW); Lisburn New Holland WwTW, Dunmurry WwTW, Newtownbreda WwTW.

The existing fiberglass units on the site had the tank within the kiosk (combined), however, the fiberglass had become aged and therefore, the Ferric Sulphate was leaking and the existing pumps had become obsolete. DPS were tasked to design and supply a new dosing system to replace these old units on each of the sites and to minimize the disruption to Ferric dosing on the existing sites (keep the sites operational) throughout.



DURATION

9 months



CAPACITY

30,000 litres



DOSE RATE

up to 120 l/hr



DOSING PIPEWORK

over 1km of dosing hose installed



SITES

3



DPS co-ordinated the design for the full system and the subcontractor manufacture of each of the individual components; bulk storage tank, ferric dosing kiosk and safety shower. DPS used the extensive experience and state-of-the-art manufacturing facilities at EPS to design and manufacture the dosing kiosk itself; with a 3 pump (DUTY – DUTY – STANDBY) arrangement, compartment leak detection, automatic valve closing and diversion for standby changeover. The kiosk is able to be controlled remotely via SCADA and is able to operate via fixed dose, flow proportional or load-based profiles. Each of the 3x pumps is able to dose 120 litres per hour of Ferric Sulphate, resulting in a potential dose of 240 litres per hour maximum capacity (Streams A and B).

DPS sourced the 30,000 litre storage tank with integrated bund from Silotank, which is located centrally (in close proximity) to the sites. This tank included manway access to the bund, emergency isolation, back-up level measurement via a cat and mouse system and a fill line with spill tray.

DPS also installed a heated Safety Shower and eyewash station to each site to ensure health and safety is maintained during operational use.

The package plant was also integrated into the existing site SCADA system, inlet flowmeter and network to allow remote control of the dosing parameters and monitoring of any alarms and feedback.

The package plant received positive feedback from both the Client, Consultant and Operator (NI Water).

